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NATIONAL SURVEY OF PERSONAL INCOMES AND SAVINGS

PART III

THE OWNERSHIP OF LIQUID AND NON-LIQUID ASSETS

This is the third paper in the series devoted to the results of the National Survey of Personal Incomes and Savings. The first paper gave a brief outline of the aims of the survey, the methods employed and the general findings;[1] and the second paper dealt with the distribution of personal incomes.[2] We now turn to the subject of asset ownership.

INTRODUCTION

The survey was not designed to provide data on the distribution of personal capital as a whole; no attempt was, therefore, made to obtain from the people interviewed complete information about every sort of asset held. But in the course of fulfilling the other purposes of the survey a considerable quantity of interesting data on the distribution of particular sorts of assets was collected. The chief purpose of the survey was to throw more light on the propensity to save, and especially on the relation between saving and personal income. It was necessary, therefore, to measure the saving of each person interviewed; which can be done, broadly speaking, in one of two ways. One possible approach, from the side of the income account, is to measure saving as the difference between disposable income and expenditure on consumption. The alternative line is to ask directly for the changes in the personal capital account. This was the method actually employed.

In order to operate this method it was necessary to ask people what assets they had bought or sold during the past year and, if their liabilities had changed in this period, by how much they had changed. It was also convenient to establish which of the various kinds of asset were owned at the time of interview. We asked each person, for example, whether he owned a car, the house in which he lived, his own business, or stocks and shares of any description; we also asked for detailed information about deposits in savings and other banks, holdings of Savings Certificates and Defence Bonds, and shares and deposits in building societies and co-operative societies. All these latter assets have the common characteristic that their values are fixed in terms of money and that they can be cashed at short notice. They are therefore referred to collectively as ' liquid ' assets. By virtue of their liquidity they are often thought to exercise a special influence on the volume of personal consumption and saving. It was mainly with the aim of testing this hypothesis and of estimating the importance of the influence of liquid asset holdings on the propensity to save that we asked about them in such detail; but, as a by-product, we obtained the information on the distribution of ownership of these assets that is given below.

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[1] BULLETIN, Vol. 14, Nos. 11 and 12, November–December, 1952.

[2] BULLETIN, Vol. 15, Nos. 2 and 3, February–March, 1953.

Thus, in the case of the liquid assets, an attempt was made to find out the exact value of the assets currently owned; for most of the other assets the inquiry was limited to asking whether the asset in question was owned or not. More light can, however, be thrown on the distribution of ownership of stocks and shares, since the people who owned stocks and shares were asked to say in which of a few broad ranges of value their total holdings fell; and, for houses that were found to be owner-occupied, the rateable values are known, from which perhaps some indication of the capital values of the houses can be derived.

Although the survey's findings on the distribution of assets are thus limited, they constitute an important advance on anything that has been known hitherto. Several studies have been made, on the basis of estate duty statistics, of the distribution of private capital in this country;[1] but these refer only to the larger property-holdings. These statistics are now even more restricted than they were before the war : for from 1946 only estates of a net capital value in excess of £2,000 are liable for estate duty. As a result of the operation of this higher exemption limit the number of estates now coming under review accounts for less than one in six of the persons who die. The estate duty statistics cannot, therefore, tell us anything about the asset holdings, small though they are, of the great majority of the population. Apart from this, the estate duty statistics are not entirely suitable for many purposes : they do not, for example, give sufficient detail about the liquid asset holdings of the deceased person; nor can we tell from them whether he was the owner-occupier of the house in which he lived. The estate duty statistics tell us the age and sex of decedents, but not their other characteristics, such as their income or occupation. For this sort of information, a census, or survey, of the living is probably required.

The first direct survey of personal assets made in this country (if we leave aside the Domesday Book) was initiated by the National Savings Committee in 1948.[2] In that inquiry 2,268 individuals were interviewed : they were asked about their attitudes to National Savings, and how much of each type of National Savings they owned. The results, although confined to a limited range of assets, are full of interest and show what can be achieved by these methods. The present survey carries forward this work on a broader front and in greater detail. In many respects the information here presented is unique: for example, the distribution of ownership of joint stock bank deposits has never previously been estimated; nor is evidence obtainable from any other source of the extent to which stocks and shares are distributed amongst the different classes of the community.

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[1] See, for example the pre-war study by H. Campion, *Public and Private Property in Great Britain*, and, for a post-war year, the articles by Kathleen Langley in this BULLETIN, December 1950 and February 1951.

[2] The report, entitled *The Public and National Savings, 1948*, has not been published; but a copy has been made available to us by courtesy of the National Savings Committee.

DEFINITIONS

The survey was carried out in April and May 1952, in the weeks following the end of the financial year. Interviews were made with nearly 2,600 ' income units ' living in private households, distributed over 69 towns and country districts in different parts of Great Britain. These ' income units ' are elements of the population of the following kinds: (1) single adult persons, of 18 or over, together with any children dependent on them; (2) married couples and their children, if any. The term ' income unit ' is thus used, for want of a better, as an abbreviation for the phrase ' single persons and married couples,' the children being assumed to adhere to their parents or guardians.

It is worth emphasising that the income unit, although sometimes equivalent to a family as generally understood, is very often a much smaller unit. Thus, about 40 per cent of income units are single persons and, of the married couples, nearly half have no children under the age of 18. Only about a third of income units are families containing two parents and one or more children.[1]

The information given below on the ownership of assets relates to the total assets owned by all the members of the income unit. For example, if husband, wife and children each have separate accounts at the Post Office Savings Bank all the accounts are added together to arrive at the figure of total deposits in the Post Office Savings Bank for that income unit.

The subject matter of this paper falls broadly under two headings: under the first is included all the matter relating to the distribution of *liquid* assets; under the second, the data referring to the ownership of *other* types of asset, in particular, stocks and shares and owner-occupied houses. This latter section also includes some discussion of the relation between the size of liquid asset holdings and ownership of the other assets.

A. LIQUID ASSETS

The liquid assets covered by this survey are of eight kinds: firstly, a group of four which have the official title of National Savings, namely, Post Office Savings Bank deposits, Trustee Savings Bank deposits, National Savings Certificates and Defence Bonds; secondly, a heterogeneous group of four further kinds of liquid asset, namely, deposits in other savings banks (largely municipal banks, penny banks and the savings departments of joint stock banks), shares and deposits in building societies and co-operative societies, and personal deposits in joint stock banks. These eight types exhaust the list of possible liquid assets, with the exception of the most liquid of all, namely, currency. It would have been appropriate to have inquired after holdings of currency, but it was thought to be impracticable. We shall discuss the distribution of each of these types of asset in turn, as well as the distribution of National Savings and of liquid assets as a whole. But before we set off on our journey through the rather thick forest of figures that lies ahead, it is necessary to pause for a moment to undertake a general appraisal of the validity of our information.

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[1] For a discussion of the reasons for dividing the population into income units on the above definitions, see the introductory section of the second paper in this series.

VALIDITY OF THE INFORMATION ON LIQUID ASSETS

The survey is based on a sample, amounting to some 2,600 out of a total population of 22 million income units in private households, and its results are accordingly subject to sampling error. The magnitude of this error depends on the sort of estimate that is made and the inherent variability of the material sampled. Liquid asset holdings are distributed in a manner quite different from the so-called normal distribution—they are generally acutely J-shaped, consisting of a large number of people with very small holdings and a steadily diminishing number with larger holdings—and the standard deviation of such a distribution is very large in comparison with its mean. An estimate of this mean by sampling methods is, therefore, subject to substantial sampling error. This is the first qualification that must be made about any estimates of mean or aggregate holdings of the various types of liquid assets.

A further problem is that, in this survey, as in all social surveys, some of the people selected for interview were not in fact interviewed, either because they were never available or because they were unwilling to give the required information. In this survey the number of people falling into the latter category was exceptionally large, and it was found that about one person in six of the population at large refused to grant an interview. This naturally creates a quandary : whether to place some reliance on the material collected from those who were successfully interviewed, or to discard the data as being totally untrustworthy. In order to resolve this conflict it would be most helpful if one could set the survey's estimates against independent and reliable figures. But in the field of liquid assets it is extraordinarily difficult to find official figures that afford a reasonable basis of comparison. This, of course, is not really surprising : in fact, if one could find in published sources good comparable information on all aspects of the survey there would be that much less reason for undertaking the collection of the information by survey methods. The best that can usually be found is a figure of the total stock of each asset outstanding, without indication as to how the funds are distributed between different groups, or, indeed, whether they are all held by private individuals. Thus, for each of the National Savings groups we have official figures, regularly published, of the total amount outstanding; and a similar type of figure can be obtained for shares and deposits in building societies and co-operative societies. But there is no published estimate of the total volume of personal deposits in joint stock banks, and the best that can be done is to bring forward certain estimates contained in the evidence of the British Bankers' Association to the Royal Commission on the Taxation of Profits and Income. This memorandum, unfortunately, does not explain how the estimates were arrived at, and we cannot be sure that the whole of these funds are in the hands of private individuals.

TABLE 30

Comparison of Estimates of Liquid Asset Holdings

Type of asset	*Survey estimate of total for private households* £ *mill*	*Official or other estimate of total stock* £ *mill*	*Survey estimate as per cent of other estimate* %
Post Office Savings Bank deposits	950	1,873	51
Trustee Savings Bank deposits ...	400	941	43
National Savings Certificates ...	1,200	1,726	70
Defence Bonds	650	877	74
Other saving bank deposits ...	150	N.A.	N.A.
Building society shares and deposits	400	1,290	31
Co-operative society shares and deposits	120	227	53
Joint stock bank deposits ...	1,400	2,000	70

The figures obtained from these various sources are given in the accompanying table (Table 30). Opposite each figure is set the survey's estimate of the total amount of each asset held by income units in private households; and a third column expresses the survey estimates as percentages of the outside estimates. This is done for convenience, although it should not be held to imply that the two sets of data are strictly comparable. The survey figures relate to amounts of liquid assets held directly by persons living in private households in Britain: the other figures contain varying amounts belonging to other sections of the community. The most important of the groups which fall under one heading but not under the other are: people living in hotels, boarding houses, and other institutions, including members of the Armed Forces; people living abroad, including British subjects temporarily absent, on business or pleasure, and others normally resident abroad who keep some liquid funds in this country; non-profit making bodies, such as schools, colleges, charities and friendly societies; trustees; executors; and business enterprises. An attempt has been made to discover how much of each of the different sorts of asset is held by these extraneous elements; but without much success. The trouble is that the various authorities have little or no occasion to inquire into the composition of their creditors. In most cases they believe that all but a very small fraction, *e.g.*, 5 per cent, of each of these assets is owned by private persons, though without particulars as to the proportions owned by persons living in private households and elsewhere.

What, then, are we to make of these comparisons ? There seems no doubt that, at least for those assets where the discrepancies are greatest, the survey estimates are too low. The sections of the population not covered by the survey could not, even on the most generous allowance, be thought to hold more than about 25 per cent of each type of liquid asset. It is true that the survey estimates for Savings Certificates, Defence Bonds and joint stock bank accounts are not far short of covering the remaining 75 per cent; but the estimates for the savings banks, building societies and the co-operatives are clearly deficient. It is very difficult to account for these discrepancies. It might have been expected that the estimates for the savings banks and the co-operative societies would have been more complete than those for some of the other assets; yet the results are in the opposite direction. There are a number of hypotheses that might be advanced to account for the deficiency in the survey estimates : for example, that the richer members of the community refused to have anything to do with the survey, that people of all classes deliberately understated their assets, that wives were unwilling to disclose their savings in front of their husbands, or that people quite honestly under-estimated how much they had in one form or another. But there is no solid evidence on which to decide between these hypotheses. It may be, of course, that there is a measure of truth in each of them.

Although it would be hazardous to make any hard and fast assumption about the causes of the downward bias in the survey estimates, it is noteworthy that there is, in many of the hypotheses that have been put forward, one common factor. This is the belief that it is those with the largest holdings of assets who are likely to be the least co-operative and informative and most inclined to understate their wealth. It was shown in the previous paper in this series that the survey estimates of personal income contained too small a proportion of income from property, the shortage being particularly great amongst those in the upper income ranges. It seems very probable that it is the same cause that lies at the root of the discrepancy between the survey estimates of liquid asset holdings and outside estimates of the total stock of these assets. In other words, the survey failed to obtain a proper representation of the larger property-owners. That quite a small defect in this respect could make a very large difference to the estimate of total assets is indicated when we consider that a mere one per cent of income units, each holding £5,000 worth of liquid assets—not a large sum for wealthy people to hold, would have between them over £1,000 million.

If this be accepted as the main explanation of the deficiency in the survey estimates, it follows that the survey's figures tend to represent assets as being more equally distributed than they really are. The picture will be one in which differences are minimised, in which there appears to be a smaller proportion of people in the higher ranges and a larger proportion in the lower ranges than is really the case. Similarly, the differences between sub-groups of the population, when classified according to occupation, income, etc., are likely to be reduced. If we look at the survey's figures in this light we can, without making a claim to have the whole truth, yet find in the results much that is both interesting and instructive. For it will generally be possible to assume that, where important differences are exhibited by the survey figures, the true differences are at least as great, and perhaps greater. It is, at any rate, on this assumption, and with the accompanying qualifications clearly in mind, that the data on liquid asset holdings are here presented, in the hope that, in spite of their deficiencies, they may cast a useful light on some of the darker corners of our subject.

National Savings

After this lengthy, but inevitable, digression, we proceed with our exposition of the survey's findings on the distribution of the various types of liquid asset. First, we take the four types of National Savings separately, after which we shall consider the distribution of National Savings as a whole.

The Post Office Savings Bank

The distribution of deposits in the Post Office Savings Bank is given in Table 31, first for all income units combined and then for various sub-groups

TABLE 31

Deposits in the Post Office Savings Bank
(percentage distribution of income units)

Type of income unit	*Amount of deposits*							*No. in sample*	*Those with deposits*	
	Nil	*£1–9*	*£10–49*	*£50–199*	*£200 & over*	*Not ascertained*	*Total*		*Mean £*	*S.D. £*
All income units ...	64	7	11	10	5	3	100	2,598	117	250
Gross income										
Under £200 ...	73	6	7	7	4	3	100	608	105	170
£200—399	69	7	9	9	4	2	100	813	106	187
£400—599	55	10	13	12	5	5	100	636	94	164
£600—999	51	8	16	15	7	3	100	346	113	194
£1,000 and over ...	48	5	13	16	14	4	100	195	345	709
Occupation of head										
Self-employed ...	63	8	7	12	9	1	100	230	194	294
Managers, etc. ...	52	6	13	17	9	3	100	259	163	301
Clerical and sales ...	51	8	18	14	7	2	100	330	76	95
Skilled manual ...	62	9	12	10	3	4	100	807	90	175
Unskilled manual	70	6	9	9	3	3	100	388	94	164
Retired, etc. ...	72	5	5	8	7	3	100	571	190	429
Age of head										
18—24	68	11	10	9	1	1	100	296	49	70
25—34	60	11	16	9	2	2	100	456	58	109
35—44	60	7	14	11	4	4	100	492	87	156
45—54	60	8	10	11	8	3	100	499	169	411
55—64	64	4	6	11	8	7	100	382	178	246
65 and over ...	72	3	5	11	7	2	100	473	174	253
Sex of head										
Male	62	8	11	10	6	3	100	1,918	123	267
Female	68	6	9	10	4	3	100	680	94	172
Region										
Scotland	79	5	7	6	2	1	100	317	94	217
North of England	73	6	9	8	3	1	100	612	98	181
Midlands and Wales	69	7	9	7	4	4	100	532	100	168
South of England ...	51	9	13	15	8	4	100	1,137	132	293

Note.—In an income unit containing husband and wife the husband is assumed to be the head.

of the population. For each group there is also given the mean size of deposit and the standard deviation of deposits, as estimated from the sample. Both these measures are subject to rather large sampling errors because of the nature of the parent distribution from which the sample is drawn.

Only some 36 per cent of income units reported that they had deposits in the Post Office Savings Bank in the spring of 1952. This figure includes 3 per cent of cases where some deposits were probably held, but the people interviewed were unwilling to reveal their size. In terms of numbers in the population these figures imply that out of the 22 million income units living in private households, some 8 million possess deposits in the Post Office. More than half of these have deposits of less than £50 and only a little over a million income units are estimated to have deposits of £200 or over.

The proportion of income units with deposits in the Post Office Savings Bank increases as the level of income rises. Whereas only about a quarter of those with gross incomes of less than £200 hold deposits the proportion increases to half amongst those with gross incomes of £600 or more. On the other hand, the average size of deposit, for those with Post Office accounts, does not change significantly as income rises, at least until the £1,000 level is reached. For each of the income groups below this point, who account for 96 per cent of the population, the average deposit is in the region of £100. By contrast, amongst the group with incomes of £1,000 and over, those who have an account at the Post Office keep deposits amounting, on the average, to about £350. It is clear that the Post Office Savings Bank is not the preserve of people with lower incomes or of ' small savers ', but that it attracts very considerable funds from the better off sections of the population.

Analysis of the sample according to the occupation of the head of the income unit shows that the largest proportion of depositors in the Post Office Savings Bank is to be found amongst salaried workers, *i.e.*, managers, technical and administrative employees, and clerks, typists and shop assistants; but the upper section of this group—the managers—keep on the average about twice as much in their Post Office accounts as the lower section—the clerical and sales workers. Self-employed people less commonly keep their money in this form, but, when they do, their average deposit is about £200. More of the skilled manual workers have accounts than of the unskilled manual workers. The least proportion of depositors is found amongst the retired and unoccupied; but the members of this group who have Post Office accounts keep, on the average, fairly substantial sums in them.

The analysis by age of head shows that there is comparatively little fluctuation in the proportion of people of different ages who have deposits in the Post Office, except that on the whole the lowest proportions are to be found amongst the young—under 25—and amongst the elderly. On the other hand, the average size of deposit shows a steady upward trend, with a marked jump in the middle 40s ; it reaches a maximum in the penultimate age group and shows a slight, but not significant, tendency to decline in the last one. This pattern, we shall find, is typical of most, if not all, the liquid assets; with the result that the great bulk of liquid personal capital is in the hands of the older members of the population.

The analysis by sex of head shows that married couples and single males—who compose the group with male heads—more frequently have deposits in the Post Office than single females; and that their average deposit is larger. Similar features are exhibited by almost every other type of liquid asset, as will be seen below.

The analysis by region reveals a striking variation in the popularity of the Post Office Savings Bank in different parts of the country: whereas deposits in the Post Office were reported by only 21 per cent of income units in Scotland, the proportion is 27 per cent in the North of England, 31 per cent in the Midlands and Wales and 49 per cent in the South of England. It should be noted, however, that these variations are in the opposite direction to the variations in the proportions of income units with accounts in the Trustee Savings Banks, from which one can conclude that it is the strength of the Trustee Savings Bank movement in Scotland and the North that accounts for the relative weakness of the Post Office in these regions.

Trustee Savings Banks

As Table 32 shows, only some 12 per cent of income units, in the country

TABLE 32. *Deposits in Trustee Savings Banks* (*percentage distributions of income units*)

Type of income unit	*Amount of deposits*							*No. in sample*	*Those with deposits*	
	Nil	*£1–9*	*£10–49*	*£50–199*	*£200 & over*	*Not ascertained*	*Total*		*Mean £*	*S.D. £*
All income units ...	88	3	3	3	2	1	100	2,598	154	306
Gross income										
Under £200 ...	91	1	2	2	2	2	100	608	224	347
£200—399	90	2	3	3	1	1	100	813	102	168
£400—599	84	3	4	4	3	2	100	636	117	183
£600—999	85	4	5	1	4	1	100	346	185	337
£1,000 and over ...	88	2	1	5	4	—	100	195	438	836
Occupation of head										
Self-employed ...	93	1	1	2	3	*	100	230	447	873
Managers, etc. ...	85	2	4	3	6	—	100	259	285	349
Clerical and sales ...	85	3	6	3	2	1	100	330	93	163
Skilled manual ...	86	3	4	4	2	1	100	807	93	188
Unskilled manual	90	3	2	1	2	2	100	388	94	138
Retired, etc. ...	91	1	1	2	3	2	100	571	288	361
Age of head										
18—24	89	3	6	2	*	*	100	296	30	45
25—34	86	4	6	3	1	*	100	456	62	101
35—44	90	3	2	3	1	1	100	492	101	281
45—54	86	1	4	3	4	2	100	499	211	42
55—64	87	1	2	1	5	4	100	382	313	353
65 and over ...	92	1	1	3	2	1	100	473	276	340
Sex of head										
Male	87	3	3	3	3	1	100	1,918	160	314
Female	90	2	3	2	1	2	100	680	125	266
Region										
Scotland	80	4	6	5	3	2	100	317	176	448
North of England	85	3	5	2	3	2	100	612	139	230
Midlands and Wales	87	2	4	3	3	1	100	532	177	328
South of England	92	2	2	2	1	1	100	1,137	136	234

as a whole, reported that they had deposits in a Trustee Savings Bank. It is possible, however, that a few of the people who reported deposits in ' other ' unnamed savings banks were in fact depositors in Trustee Savings Banks. The average size of deposit in Trustee Savings Banks, estimated at £154, is larger than the average for the Post Office, estimated at £117.

The proportion of depositors in the Trustee Savings Bank grows as income rises up to the middle income range, and then tends to fall off a little. The difference between this relation and that which obtains in the case of the Post Office is quite definite; but its cause is not so clear. One explanation may be that the Trustee Savings Bank movement is still growing and that a growing movement attracts more of the middle income groups than of those with larger incomes. But a more likely explanation seems to be that Trustee Savings Banks offer facilities that approach those offered by joint stock banks: for example, they undertake to make regular payments on behalf of their customers, larger sums can normally be withdrawn from them on demand than from the Post Office and they will usually write a cheque for any amount without delay. These facilities are attractive to people of moderate incomes who want something more than the Post Office can offer but do not wish to incur the expense of a current account at a joint stock bank. Some confirmation of this hypothesis may be found in the fact that, in comparison with the Post Office, a relatively large proportion of the customers of the Trustee Savings Banks are skilled manual workers, and a relatively small proportion are business and professional people.

The larger average size of account in Trustee Savings Banks compared with the Post Office, already noted above, does not appear to be due to the holding of larger deposits by the classes amongst whom the Trustee Savings Banks are particularly strong, but rather to the holding of larger average deposits by the self-employed, managers and the retired and unoccupied, *i.e.*, by members of groups that are relatively weak in their support of Trustee Savings Banks. This may be interpreted to mean that when a Trustee Savings Bank attracts the custom of one of the latter classes it will tend to acquire a fairly substantial account, while, from the former classes, the Trustee Savings Banks attract a more ' normal ' range of depositors.

When income units are grouped according to the age of the head we find, in the 35-44 age group, a peculiar fluctuation in the proportion of Trustee Savings Bank depositors. It seems to be out of keeping with the general trend of the figures, both here and in other tables showing the variation of liquid asset holdings by age; and it may be merely a sampling fluctuation. If we overlook this exception, the tendency is for the proportion of depositors to increase as age increases up to a maximum somewhere in middle age and then to decline, with a marked drop after the age of 65. The average size of deposit, however, increases with much more regularity, as in the case of the Post Office, and reaches a peak just before retiring age.

The analysis by region reflects, as already mentioned, the relative strength of the Trustee Savings Bank movement in different parts of the country :

but, while the proportion of depositors shrinks as we move south, the average size of deposit shows no particular trend. On the whole Scotland is clearly the stronghold of the movement.

National Savings Certificates

National Savings Certificates do not, strictly speaking, pay interest: their capital value increases with the passage of time. As a result of this peculiarity people who own certificates do not usually know how much their certificates are worth at their current value. In this inquiry, therefore, we were not able to ask for the present value of certificates owned but had to be content with information on their original purchase price. The figures compiled in Table 33 show the distribution of certificates when valued in this way.

About 24 per cent of income units, equivalent to some 5½ million income units living in private households, reported that they held some National Savings Certificates at the time of the survey; and their average holding, at original price, was £225. The proportion holding certificates increases steeply

TABLE 33

Holdings of National Savings Certificates
(percentage distributions of income units)

Type of income unit	*Amount of certificates*[1]							*No. in sample*	*Those with certificates*	
	Nil	*£1–9*	*£10–49*	*£50–199*	*£200 and over*	*Not ascertained*	*Total*		*Mean £*	*S.D. £*
All income units ...	76	4	6	5	7	2	100	2,598	225	431
Gross income										
Under £200 ...	86	3	3	3	3	2	100	608	129	195
£200—399	81	4	6	4	4	1	100	813	146	255
£400—599	72	6	8	6	6	2	100	636	195	421
£600—999	63	5	9	12	10	1	100	346	239	370
£1,000 and over ...	44	3	8	4	39	2	100	195	661	789
Occupation of head										
Self-employed ...	66	1	7	8	17	1	100	230	388	514
Managers, etc. ...	44	4	14	14	24	*	100	259	435	655
Clerical and sales ...	68	6	11	6	7	2	100	330	136	216
Skilled manual ...	80	4	7	5	3	1	100	807	121	330
Unskilled manual	82	6	3	4	3	2	100	388	90	166
Retired, etc. ...	82	3	3	3	7	2	100	571	320	455
Age of head										
18—24	86	4	6	3	*	1	100	296	37	44
25—34	83	5	5	5	2	—	100	456	146	378
35—44	71	7	7	8	5	2	100	492	143	398
45—54	69	4	9	5	11	2	100	499	272	457
55—64	70	3	5	7	12	3	100	382	318	466
65 and over ...	81	2	3	3	9	2	100	473	344	477
Sex of head										
Male	76	4	6	6	7	1	100	1,918	236	453
Female	78	4	6	4	5	3	100	680	185	333
Region										
Scotland	85	3	3	3	5	1	100	317	314	566
North of England	78	4	6	5	6	1	100	612	223	427
Midlands and Wales	74	6	6	6	7	1	100	532	223	461
South of England	74	4	7	6	7	2	100	1,137	213	386

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[1] Valued at original purchase price.

as income rises, and the average holding of those with certificates rises also, somewhat slowly at first, but with rapid acceleration towards the end. It is well known that Savings Certificates, because of their immunity from both income tax and surtax, are particularly attractive to people in the upper income groups, and it is not surprising to find that, amongst these groups, they are the most popular form of National Savings. Fifty-six per cent of income units whose income is £1,000 or over have some Savings Certificates, about 40 per cent of them having £200 or more. Amongst the group with incomes of £2,000 and over, who derive the greatest advantage from the tax immunity of Savings Certificates, two out of three reported that they owned some certificates and more than half owned £200 or more.

Of the occupational groups, the managers show by far the largest proportion of holders of Savings Certificates : 56 per cent of them own some certificates, and their average holding is between £400 and £500 each. By comparison, the self-employed, despite the similarity of their economic and social position, do not hold certificates so extensively. The self-employed, as will be seen, are less commonly attracted to National Savings as a whole, perhaps because they prefer to employ their resources in the development of their businesses or professions. About the same proportion of clerical and sales workers have certificates as of the self-employed; but they own on the average much smaller amounts. Manual workers, both skilled and unskilled, own certificates in one case out of five and their average holdings are moderate. A similar proportion of the retired and unoccupied own certificates but they hold, on the average, larger amounts.

The analysis by age exhibits features very similar to those indicated under the previous headings. The proportion of income units owning certificates increases up to middle age and then declines, especially after the age of 65. On the other hand, the average size of holding of certificates continues to increase to the end : in the final age group the percentage of income units with certificates falls, but, since the fall affects each size of holding in similar proportion, the average size of holding is slightly greater. This suggests that old people do not reduce their holdings of certificates gradually, as may be the case with their deposits in savings banks, but, if they are forced to cash certificates, cash all they possess at one blow.

From the analysis by region it appears that, while the percentage of people possessing National Savings Certificates is greater in England than in Scotland, the average size of holding in Scotland is larger. In general, there is a tendency for the proportion of income units holding certificates to increase as one moves south, corresponding to a similar trend in National Savings and liquid assets as a whole.

Defence Bonds

Table 34 contains a summary of the information collected about Defence Bonds. Since the proportion of income units owning these securities is very small, no attempt has been made to present the frequency distributions; but

TABLE 34

Amounts in Defence Bonds, Building Societies and Other Savings Banks

Type of income unit	*Defence Bonds*			*Building Societies*			*Other Savings Banks*		
	Per cent with Bonds	*Those with these assets*		*Per cent with shares or deposits*	*Those with these assets*		*Per cent with deposits*	*Those with deposits*	
		Mean £	*S.D.* £		*Mean* £	*S.D.* £		*Mean* £	*S.D.* £
All income units	4	812	1,111	4	508	856	7	111	267
Gross income									
Under £200	3	905	1,008	2	239	150	3	253	304
£200—399	2	627	527	2	348	343	8	128	354
£400—599	3	725	1,040	4	441	911	9	62	135
£600—999	4	548	591	6	370	496	7	106	173
£1,000 and over	20	1,112	1,599	18	918	1,203	4	182	168
Occupation of head									
Self-employed	10	989	1,797	9	754	1,039	8	156	183
Managers, etc.	11	584	645	7	749	997	8	88	130
Clerical and sales	2	241	498	4	176	131	9	200	524
Skilled manual	1	526	565	3	242	313	8	44	71
Unskilled manual	1	196	45	2	317	197	6	116	186
Retired, etc.	6	1,106	965	4	680	1,143	4	295	296
Age of head									
18—24	1	129	91	1	59	64	7	65	145
25—34	1	531	294	1	280	309	6	43	56
35—44	3	389	647	3	267	484	9	55	95
45—54	5	692	839	4	523	877	10	152	428
55—64	7	998	1,572	6	681	1,070	5	125	88
65 and over	5	1,012	1,001	4	595	881	4	348	279
Sex of head									
Male	3	828	1,190	4	545	899	7	99	265
Female	5	770	873	3	229	290	6	174	269
Region									
Scotland	4	621	570	1	588	936	8	64	113
North of England	3	582	568	5	552	911	9	145	389
Midlands and Wales	4	825	972	2	681	1,282	10	100	168
South of England	4	1,022	1,507	4	388	496	3	98	174

the table shows the percentage in each group who own Defence Bonds, their average holding and the standard deviation of the amounts held.

Defence Bonds can be bought in units of £5, but people who invest in them do not commonly hold such small amounts. Of the income units in the sample who reported the ownership of Defence Bonds, only one had as little as £5 worth; 10 per cent had less than £100, 40 per cent had between £100 and £500, and 50 per cent had £500 or over. The maximum holding reported was £10,000. As can be seen from the table, Defence Bonds are not usually held by the lower income groups, and it is only amongst those with an income of £1,000 and over that any appreciable proportion of people invest in this way. It is this relation between income and the propensity to buy Defence Bonds that appears to account for the variations between different occupation and age groups: in general, it is in the groups in which high incomes are to be found that the percentage of owners of Defence Bonds is significantly higher than elsewhere.

National Savings as a Whole

Having examined each of the categories of National savings separately, we can proceed to consider the distribution of National Savings as a whole. All four types of National Savings come under the official umbrella and, as a consequence, are given the benefit of the publicity drives associated with the movement. This much they have in common and, flowing from this, doubtless an element of patriotic feeling often sways the decision whether (and how much) to invest in these directions. In other respects, however, the four assets are very dissimilar. The two savings banks, it is true, are close competitors; Savings Certificates, on the other hand, while sold freely to genuinely small savers, have features that make them particularly attractive to the wealthier classes, who hold a large proportion of the total; and Defence Bonds, though not subject to the risks of market fluctuation, are more akin to stocks and shares. When the total amount of assets of any of these four types are added together we get, inevitably, a picture in which the heterogeneity of the constituent items is obscured.

The distribution of National savings is given in Table 35. It can be seen

TABLE 35

Total in National Savings
(percentage distributions of income units)

Type of income unit	*Amount in National Savings*							*No. in sample*	*Those with these assets*	
	Nil	*£1-9*	*£10-49*	*£50-199*	*£200-599*	*£600 and over*	*Not ascertained*		*Mean £*	*S.D. £*
All income units ...	45	9	14	15	8	5	4	2,598	255	610
Gross income										
Under £200 ...	61	8	10	9	5	3	4	608	208	432
£200—399	51	9	13	13	7	4	3	813	169	323
£400—599	36	11	17	17	9	4	6	636	205	440
£600—999	28	8	18	22	13	8	3	346	265	585
£1,000 and over ...	18	5	11	12	21	29	4	195	1,014	1,576
Occupation of head										
Self-employed ...	41	9	6	18	10	15	1	230	558	1,104
Managers, etc. ...	20	4	13	23	19	19	2	259	531	867
Clerical and sales ...	31	10	22	18	12	3	4	330	142	241
Skilled manual ...	43	10	18	16	6	2	5	807	135	323
Unskilled manual	56	11	10	10	7	1	5	388	117	199
Retired, etc. ...	58	5	7	9	8	8	5	571	463	889
Age of head										
18—24	51	15	16	14	3	*	1	296	52	72
25—34	43	14	20	15	5	1	2	456	106	302
35—44	41	11	17	16	7	3	5	492	156	354
45—54	41	6	15	15	12	7	4	499	352	799
55—64	44	3	8	13	12	11	9	382	465	849
65 and over ...	57	4	6	12	9	8	4	473	437	733
Sex of head										
Male	44	8	14	15	9	6	4	1,918	265	644
Female	51	9	11	13	7	4	5	680	217	463
Region										
Scotland	55	8	12	11	6	5	3	317	279	681
North of England	52	8	14	11	7	5	3	612	233	528
Midlands and Wales	45	8	13	15	8	6	5	532	256	514
South of England...	39	10	14	18	9	5	5	1,137	269	674

that some National Savings are held by over half the population of income units in private households. But this includes some 10 per cent of income units who have less than £10 each, and 25 per cent with less than £50; only about 30 per cent of income units have National Savings of £50 or more. The average holding, about £250, is very strongly influenced by the large sums held by a small minority.

The proportion of investors in National Savings increases with income in a quite unequivocal fashion; but the average size of holding does not rise appreciably until the highest income group is reached, *i.e.*, amongst those with £1,000 a year and over. This group has, of course, no defined upper limit, and its average holding of any asset is therefore much affected by the large holdings of those with the highest incomes. Nevertheless, it is of interest to note that over half of the members of this group possess National Savings worth £200 or more, nearly a third have £600 or more, and the average holding per income unit is in the region of £1,000.

Amongst the occupational groups, the managers are the best supporters of National Savings: 4 out of 5 hold some National Savings and their average holding is over £500. They are followed, in order of the proportion of income units owning National Savings, by the clerical and sales workers (more than two-thirds of whom are owners), the self-employed and skilled manual workers (over half) and unskilled manual workers and the retired (under half). The average holdings of the self-employed and of the retired are similar to that of the managers while the average holdings of the other groups are between £100 and £150.

The distribution by age groups again follows the standard pattern: the largest proportion of National Savers occurs amongst income units whose heads are aged between 35 and 54; and the average size of holding increases steadily with age, with a marked jump in the middle 40s, reaching a maximum in the last age group but one. The larger holdings of income units with male heads are also apparent.

The proportion of income units holding National Savings increases as one moves from north to south, ranging from less than half in Scotland and the North of England to more than 3 out of 5 in the South of England; but the average size of holding does not vary significantly.

OTHER TYPES OF LIQUID ASSET

Building Societies

From Table 34 it can be seen that only 4 per cent of income units reported that they owned building society shares or deposits. This figure, equivalent to about one million income units in private households, cannot be compared directly with the 3 million shareholders and depositors recorded by the building societies, since it is not known by how much the latter figure is swollen by double-counting of people who hold both shares and deposits, and by those who invest in more than one society. As has already been shown, the survey's estimate of the total amount invested by persons in building society shares and deposits is much below the official total; but this discrepancy could be accounted for by the failure of a very small group of large investors to co-operate in this inquiry. The estimates of the percentages of income units who own these assets need not, therefore, be far wrong, except in some of the groups in which larger proportions are already apparent.

The proportion of income units holding building society assets varies in a very similar fashion to the proportion owning Defence Bonds : it is relatively high in the top income group, amongst the self-employed and managers, and in the older age groups. The proportion of building society investors seems to be particularly low in Scotland and particularly high in the North of England. The average size of investment in building societies is generally large, but not as large as investments in Defence Bonds.

Other Savings Banks

The other savings banks are a mixture, and it is difficult to draw very meaningful conclusions from the study of the figures relating to them. It is interesting, however, to find that as many as 7 per cent of income units have deposits in one or other of these banks. The analysis by sub-groups suggests that the largest proportions of depositors are, broadly speaking, amongst those of medium income and of middle age, and that the proportion of depositors in the South of England is particularly small.

Co-operative Societies

Nearly one in four income units reported that they were members of co-operative societies : this represents a national total of about 5 million income units in private households. The official figure of individual members of retail co-operative societies is more than twice this number but it does not afford a satisfactory basis of comparison. Assuming, as seems very probable, that all the heads of income units in which there is a member of a co-operative society are also heads of households, the estimates derived from this survey suggest that in about one-third of British households the head of the household, or his wife, is a member of a co-operative society. It appears from Table 36 that most members have very small investments in their co-operative society : nearly half of them reported only a single £1 share and more than two-thirds less than £10; but, in view of the survey's tendency to underestimate the aggregate of co-operative society shares and deposits, it may be that many of these people have more capital invested in this direction than they realise, or are prepared to admit. A relatively small number of people have total investments in co-operative societies of more than £100; but their aggregate investment constitutes an important part of the total.

The main support of the co-operative movement, in terms of numbers, comes from skilled manual workers, amongst whom more than one in four appear to be members. But the chief determinant of co-operative society membership seems to be the income of the family : thus one-third of income units in the £400–599 gross income group are members, as against one in nine of those with £1,000 a year and over. Membership is less frequent

TABLE 36

Shares and Deposits in Co-operative Societies
(percentage distributions of income units)

Type of income unit	*Total shares and deposits*						*No. in sample*	*Those with these assets*	
	Nil	*£1–9*	*£10–49*	*£50 and over*	*Not ascertained*	*Total*		*Mean £*	*S.D. £*
All income units	77	16	3	3	1	100	2,598	25	64
Gross income									
Under £200	83	11	3	2	1	100	608	29	62
£200—399	82	13	3	2	*	100	813	20	49
£400—599	66	26	4	3	1	100	636	20	62
£600—999	76	15	5	4	—	100	346	36	85
£1,000 and over	89	7	1	3	—	100	195	63	106
Occupation of head ...									
Self-employed	85	12	1	2	—	100	230	36	95
Managers, etc.	80	14	2	3	1	100	259	41	84
Clerical and sales	83	10	3	3	1	100	330	36	85
Skilled manual	74	19	4	3	*	100	807	20	59
Unskilled manual	79	16	2	2	1	100	388	16	37
Retired, etc.	77	15	3	4	1	100	571	30	63
Age of head									
18—24	98	1	*	—	1	100	296	19	16
25—34	78	19	2	1	—	100	456	11	51
35—44	75	19	4	1	1	100	492	12	38
45—54	75	18	4	3	*	100	499	28	71
55—64	71	18	4	6	1	100	382	32	71
65 and over	74	16	4	5	1	100	473	41	75
Sex of head									
Male	75	18	3	3	1	100	1,918	25	65
Female	85	10	2	2	1	100	680	21	55
Region									
Scotland	72	19	7	2	*	100	317	19	51
North of England ...	77	15	4	4	*	100	612	35	75
Midlands and Wales ...	70	19	5	5	1	100	532	32	77
South of England	84	14	*	1	1	100	1,137	10	33

at the lower end of the income scale also, and especially amongst young people under 25. It is interesting, and perhaps a little surprising, to find that as many as 15 per cent of the self-employed are members, and 20 per cent of managers.

The regional breakdown brings to light an unexpected result. The figures confirm the common observation that co-operative societies are considerably weaker in the South of England than elsewhere; but it is remarkable to find a higher proportion of members in Scotland and in the Midlands and Wales than in the North of England, the original home of the movement. However, North of England co-operators appear to have bigger investments than the others, certainly in comparison with Scotland.

Joint Stock Banks

The last of the eight types of liquid asset covered by this inquiry is money deposited in joint stock banks. For people without business or professional interests any bank account was included, but for those who owned a business or professional practice the inquiry was limited to purely *personal* accounts. Thus the general rule was that accounts used either wholly or partly for business or professional purposes should be excluded. But in the case of farmers, where it was thought it would be more than ordinarily difficult to separate business from private affairs, an exception was made. There were about 30 farmers in the sample, and some of them had no bank account while others were overdrawn, so that the number with positive balances at the bank was quite small. However, those who had such balances usually had fairly large ones (in one case it was extremely large), and their inclusion or exclusion makes a considerable difference to the estimates of the average size of joint stock banking accounts. The figures given in Table 37 include farmers' accounts. Alternative estimates of the average size of deposit, excluding farmers' accounts, will be referred to in the text.

The proportion of all income units reporting the existence of a positive balance in a personal bank account was about one in six. The proportion varies widely for different income groups, ranging from 8–10 per cent of those with an income of less than £400 to 37 per cent of those with £600–999 and 74 per cent of those with £1,000 and over. The average size of deposit, which is about £400 overall, appears to be larger amongst the lowest income

TABLE 37
Deposits in Joint Stock Banks
(percentage distributions of income units)

Type of income unit	*Total deposits*							*No. in sample*	*Those with deposits*	
	Nil	*£1–49*	*£50–199*	*£200–599*	*£600 and over*	*Not ascertained*	*Total*		*Mean £*	*S.D. £*
All income units	84	4	4	3	2	3	100	2,598	398	1,767
Gross income										
Under £200	92	2	2	1	1	2	100	608	341	662
£200—399	90	3	3	2	1	1	100	813	200	335
£400—599	84	5	4	2	1	4	100	636	210	522
£600—999	63	10	12	9	3	3	100	346	195	297
£1,000 and over	26	8	13	22	20	11	100	195	1,194	4,088
Occupation of head										
Self-employed	61	4	8	12	8	7	100	230	1,149	4,224
Managers, etc.	30	22	22	12	8	6	100	259	271	743
Clerical and sales	84	5	5	2	1	3	100	330	148	209
Skilled manual	91	3	3	1	1	1	100	807	212	375
Unskilled manual	96	1	1	1	*	1	100	388	257	434
Retired, etc.	82	4	4	4	2	4	100	571	366	729
Age of head										
18—24	97	2	1	—	—	*	100	296	33	27
25—34	87	5	3	3	1	1	100	456	172	277
35—44	83	6	4	3	1	3	100	492	181	299
45—54	81	4	7	3	2	3	100	499	661	3,405
55—64	77	5	6	4	4	4	100	382	506	1,223
65 and over	81	3	5	3	4	4	100	473	417	635
Sex of head										
Male	83	5	4	3	2	3	100	1,918	435	1,944
Female	87	4	4	2	1	2	100	680	245	570
Region										
Scotland	86	5	3	3	1	2	100	317	258	453
North of England	88	3	3	2	2	2	100	612	264	374
Midlands and Wales	85	4	5	3	1	2	100	532	281	543
South of England	79	6	5	4	2	4	100	1,137	525	2,442

group than amongst any of the other groups below £1,000. When farmers' bank accounts are excluded the average size of deposit, for all income units, is reduced to £290; and for those in the lowest income group it becomes £320. The larger figure for those with small incomes is attributable to the fact that many of the people in this income group who have bank accounts are elderly, and dependent to some degree on investment income. Both these attributes are associated with the holding of a larger account at the bank. The rise in the average size of deposit in the top income group, those with £1,000 a year and over, is very striking : here the farmers' accounts have their chief effect, but even without them the average deposit would be £658. About half the income units with incomes of £1,000 and over have personal bank accounts of £200 or more, and about a quarter of them have £600 or more. It is, at first sight, surprising that as many as one in four of the people in this group have no bank deposits; but it would be wrong to conclude that all of these 26 per cent are deprived of access to a bank account. As will be seen, some 14 per cent of them have overdrafts, and, of the remainder, there is little doubt that most are people in business or professional practice whose banking accounts serve for both business and personal transactions.

The close relation between the size of a person's income and his likelihood of having a banking account is reflected in the figures for the different occupational groups. If we take the percentage of each occupational group whose gross income is £600 or more and compare it with the percentage having a bank account, including both those with an overdraft as well as those with a positive balance, we discover a close correspondence. The figures are as follows : self-employed—percentage with incomes of £600 and over, 47, percentage with bank accounts, 49; managers—73 and 76; clerical and sales workers—12 and 16; skilled manual workers—13 and 9; unskilled manual workers—5 and 4; retired and unoccupied—2 and 18. The last group make an apparent exception to the rule; but the reason is not far to seek. Retired people have, on the whole, very low incomes, but they form, in other respects, a cross-section of the population; hence it is not so surprising that about the same proportion of retired people have bank accounts as in the population as a whole. The conclusion that seems to flow from this analysis is that people usually take out a bank account when their income passes the level of about £600 a year. But, once they have an account, they do not generally give it up on retirement, even though their income falls to less than £600. At the same time, there are some purely occupational influences as well, such as that the self-employed and salaried workers tend to open a bank account before they reach £600 a year, whilst manual workers do not open one until they reach a somewhat higher level. The reasons for these variations in habit are fairly obvious.

Amongst the different age groups, the proportion who have deposits in a joint stock bank increases fairly steadily up to the year of retirement, and the average size of the account increases also, but less evenly. If farmers' bank accounts are excluded the gradation becomes smoother and the average size of deposit reaches a maximum of £479 in the last age group but one. The differences between the bank deposits of income units whose heads are males and females respectively are more or less what one would expect; and the only special point of interest in the regional analysis is the higher percentage of bank depositors in the South of England. The large average size of deposit in the South of England is much affected by the fact that this region contains most of the large farmers' accounts.

Overdrafts

When a bank account becomes negative it is an overdraft, and it is clearly no longer an asset but a liability. It is arguable that overdrafts should be treated as 'liquid liabilities', which should be offset against any holdings of liquid assets to arrive at 'net' liquid assets. Against this it can be said that overdrafts are frequently not liquid and that they do not differ, in essence, from other debts. Influenced by the latter line of reasoning, we decided not to deduct overdrafts from gross liquid assets; but since information on overdrafts was in fact collected, and since overdrafts are very closely related to bank accounts, the main points of interest can most conveniently be presented here.

At the time of interview, 1.3 per cent of all income units had an overdraft. This is equivalent to a total of about 300,000 income units in private households. Amongst the self-employed, nearly 10 per cent were found to be overdrawn on personal account: which means that out of every five income units in this group who had a personal account at the bank, one was overdrawn. Amongst the small group of farmers in the sample, already included in the self-employed, the proportion who were overdrawn was about one in three. Between 5 and 6 per cent of managers had overdrafts; but amongst the remainder of the population the proportion was less than 1 per cent.

Overdrafts are much more frequent amongst people with large incomes than at the lower end of the income scale. As can be seen from Table 38, the percentage of income units carrying overdrafts increases slightly as income increases up to the £1,000 level; it then increases rapidly from less than 3

TABLE 38

Bank Accounts and Overdrafts by Income Groups

Gross income	*Per cent of each group with:*			*Overdrafts as per cent of bank accounts in each group*
	Positive bank balance %	*Over-draft* %	*Any bank account* %	%
Under £200	8.5	0.4	8.9	4
£200—399	9.9	0.2	10.1	2
£400—599	15.6	1.2	16.8	7
£600—999	36.8	2.4	39.0	6
£1,000 and over ...	73.6	14.3	87.9	16
All	16.4	1.3	17.7	7

per cent to over 14 per cent. This movement is partly explained by the changes in the total proportion of income units who have bank accounts, *i.e.*, in the proportion of the population 'at risk'; but not entirely. Whereas 7 per cent of all people with bank accounts are overdrawn, amongst those with bank accounts in the top income group 16 per cent are in this condition.

The existence of an overdraft does not necessarily imply that its owner is short of liquid assets. This interesting fact is clearly revealed when the incidence of overdrafts is studied in relation to the quantity of liquid assets held. Of those who were overdrawn at the bank, 16 per cent had no liquid assets; a further 24 per cent had less than £50; and nearly half had less than £100. But the other half of the group had liquid assets of £100 or more, 13 per cent of them having liquid assets of £1,000 or more. As a general rule, overdrafts exceed the total of liquid assets held, but there are many cases in which the opposite relationship obtains. Some people clearly find it advantageous to raise an overdraft even when they have adequate liquid funds in hand. It could happen where the funds belong to the wife and the overdraft is raised by the husband; also where the overdraft is granted on the security of a mortgage; thirdly, where it is preferable, for reasons of profit or convenience, to incur a temporary overdraft rather than to dispose of securities long held undisturbed. The last case is most likely to occur if the securities held are Savings Certificates and their owner a surtax payer.

Total Liquid Assets

We have now completed the examination of each of the eight types of liquid asset separately, and of the total for the National Savings group. We proceed to consider the distribution of total liquid assets, derived, for each income unit, by adding up each of the specific assets. The results are given in Table 39.

The distribution of total liquid assets amongst all income units has been given already in the first paper in this series, where attention was drawn to the fact that one-third of all income units were found to have no liquid assets of the kinds covered by this survey. Altogether almost half the population have less than £10 and 3 out of 5 have less than £50. The average amount held by those with some liquid assets is about £330.

When income units are classified according to their gross income it appears that there is a close association between income and the probability of possessing some liquid assets. In no income group do less than about half the members own some liquid assets; but the proportion increases from this minimum amongst the lowest income group to 80 per cent or more amongst those with incomes between £400 and £700, 90 per cent or more amongst those with £700 to £1,500, and practically 100 per cent amongst those above this level. The average size of liquid asset holding, after a slight but probably not significant tendency to fall, is remarkably stable for all income groups up to £700 a year; then it begins to climb from a level of £200–250, at first

TABLE 39. *Total Liquid Asset Holdings (percentage distributions of income units)*

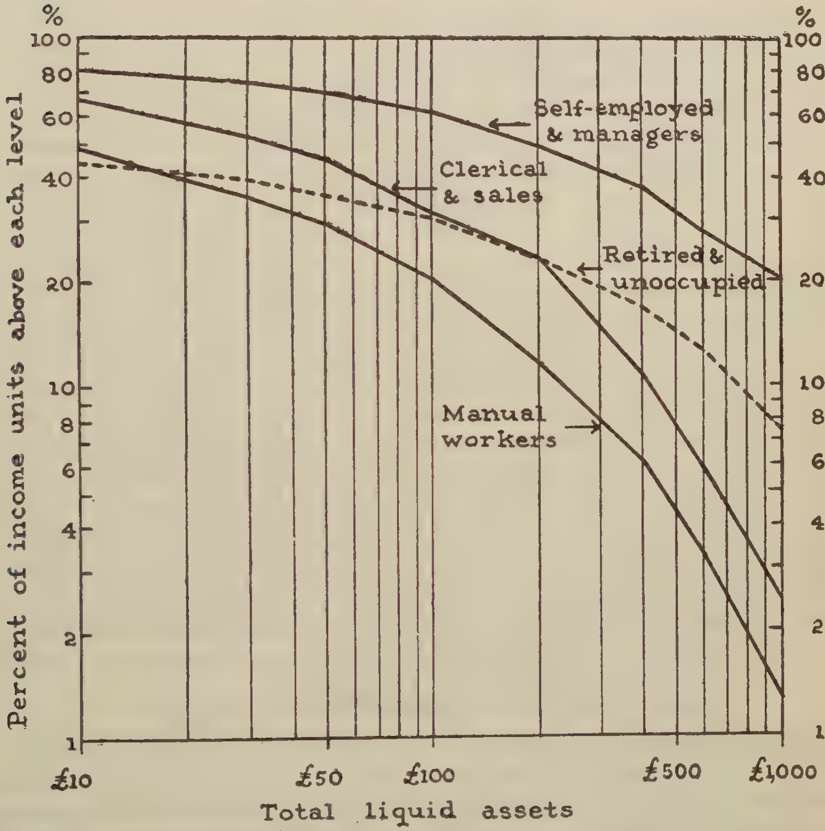
Type of income unit	*Total liquid assets*							*No. in sample*	*Those with assets*	
	Nil	*£1–9*	*£10–49*	*£50–199*	*£200–599*	*£600 and over*	*Not ascertained*		*Mean £*	*S.D. £*
All income units	32	13	14	16	11	8	6	2,598	331	1,084
Gross income										
Under £100	53	8	8	13	6	5	7	201	210	316
£100—199	47	15	12	10	6	5	5	407	232	631
£200—299	37	13	13	19	8	5	5	344	198	421
£300—399	40	16	12	13	9	5	5	469	184	360
£400—499	21	17	18	18	12	6	8	385	232	589
£500—599	19	13	19	25	10	7	7	251	235	617
£600—699	14	9	23	22	18	10	4	154	251	502
£700—799	11	15	16	18	19	16	5	95	339	621
£800—999	6	2	22	22	23	19	6	97	478	780
£1,000—1,499	7	5	3	13	27	35	10	101	982	1,270
£1,500—1,999	2	—	—	5	18	64	11	41	2,430	2,352
£2,000 and over	3	—	—	10	13	71	3	53	3,706	6,265
Occupation of head										
Self-employed	16	13	5	17	18	23	8	230	1,011	2,973
Managers, etc.	4	6	13	23	21	28	5	269	705	1,189
Clerical and sales	21	12	19	20	16	5	7	330	191	341
Skilled manual	31	14	19	19	8	4	5	807	150	352
Unskilled manual	45	16	12	13	7	3	4	388	134	246
Retired, etc.	42	12	8	10	9	11	8	571	498	1,104
Age of head										
18—24	46	16	16	16	3	1	2	296	59	95
25—34	29	19	22	17	7	3	3	456	134	387
35—44	28	14	17	19	10	5	7	492	188	429
45—54	28	10	14	17	15	11	5	499	514	1,904
55—64	27	9	9	14	16	14	11	382	563	1,211
65 and over	38	12	6	13	9	14	8	473	500	891
Sex of head										
Male	30	13	14	17	11	9	6	1,918	357	1,185
Female	39	14	13	14	8	5	7	680	237	571
Number of persons										
One	43	10	13	16	8	5	5	987	244	553
Two	22	11	11	17	17	14	8	731	546	1,713
Three	24	19	18	18	8	8	5	412	240	629
Four	25	21	18	15	8	6	7	297	222	586
Five	34	12	24	16	8	3	3	115	229	702
Six or more	58	21	7	9	2	—	3	56	40	60
Manual workers by industry										
Manufacture, metal	29	17	19	14	13	4	4	237	172	317
Manufacture, other	35	16	16	18	6	2	7	283	134	353
Agriculture, mining, building	40	14	17	17	5	2	5	283	126	309
Utilities and distribution	37	14	17	18	6	4	4	222	151	383
Services and administration	37	13	16	17	10	3	4	170	144	227
All manual workers	35	15	17	17	8	3	5	1,195	145	327
Region										
Scotland	37	15	17	11	10	6	4	317	277	698
North of England	37	12	14	14	10	8	5	612	300	668
Midlands and Wales	30	14	15	16	11	8	6	532	300	693
South of England	28	13	13	19	11	9	7	1,137	378	1,457
Size of town										
Conurbation	35	13	13	16	9	6	8	964	284	767
Other urban	29	16	16	14	11	9	5	1,167	310	755
Rural	34	9	11	20	12	10	4	467	471	1,950
Housing tenure										
Owner, without mortgage	11	4	6	16	22	33	8	381	1,033	2,333
Owner, with mortgage	15	13	24	20	14	8	6	242	208	343
All owners	12	8	14	18	19	22	7	623	683	1,830
Tenants	34	17	13	16	9	5	6	1,299	212	564
Non-heads of households	43	11	16	16	7	3	4	676	146	303

slowly but later much more rapidly, reaching an average of between £3,000 and £4,000 amongst those whose incomes are in the surtax range.

Amongst the occupational groups, the self-employed and managers have the largest stocks of liquid funds: a high proportion of both groups have some assets and their average holdings are much above those of other groups. The next group, in the order of the proportion of people with liquid assets, is the clerical and sales workers, followed by the skilled manual workers and, finally, by the unskilled manual workers and the retired and unoccupied. Amongst the last group those who possess liquid assets have, on the average, comparatively large amounts. The relation between the occupational groups is illustrated in Chart 14, in which the cumulative percentage of income units whose total liquid assets exceed each level is plotted on a double-logarithmic

CHART 14

Total Liquid Assets by Occupations



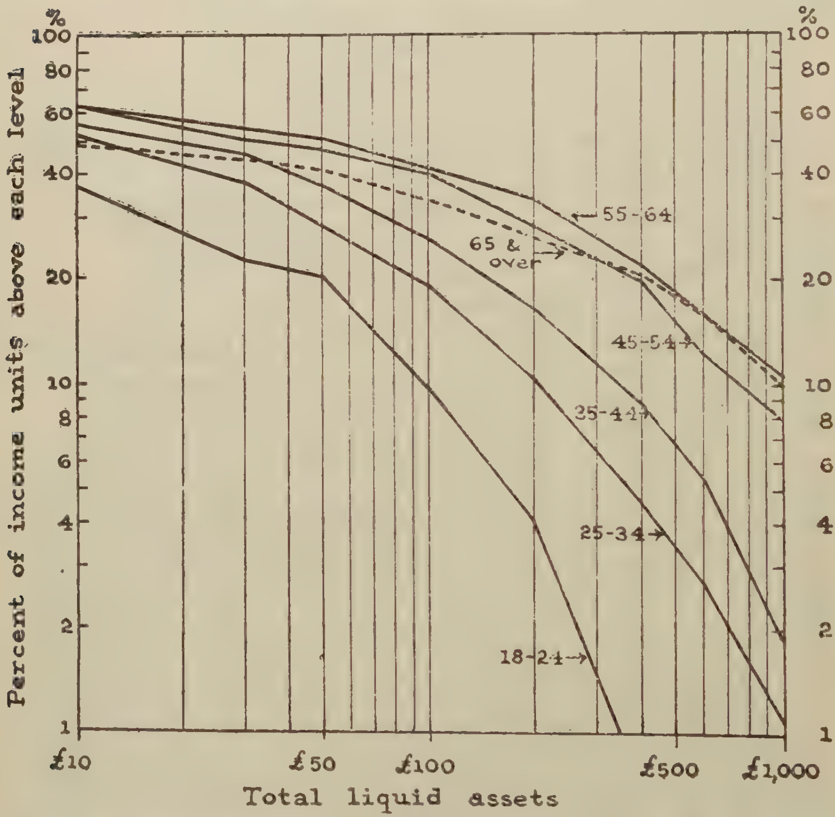
Note.—The percentage of income units whose total liquid assets exceed each level is plotted on a double-logarithmic scale.

scale. The chart shows clearly how the retired and unoccupied tend to spread out in comparison with the active occupations. The chief explanation of this feature is, doubtless, the fact that retired people are themselves a mixture, derived originally from the active occupations.

The analysis by age shows again that, while the proportion of people with liquid assets falls away at both ends of the scale, the average stock of capital held in this form increases up to the penultimate age group. In general, the rate of accumulation of liquid capital is especially rapid between 45 and 54. The differences between the age groups are illustrated in Chart 15.

CHART 15

Total Liquid Assets by Age Groups



Note.—The percentage of income units whose total liquid assets exceed each level is plotted on a double-logarithmic scale.

The analysis by the number of persons in the income unit shows that only about 3 out of 5 single people have liquid assets; married couples with no children under 18 (nearly all the two-person income units are of this sort) are much richer; married couples with one, two or three children are worse off again; and those with four or more children are generally almost devoid of liquid reserves. The very heavy concentration of liquid assets in the hands of childless married couples is associated with the fact that personal capital holdings increase in middle age.

The next section of Table 39 contains a separate analysis of the liquid asset holdings of manual workers, grouped according to a few broad classes of industry. It seems that those employed in the metal and engineering industries are a little better off than those employed in other industries and services, the lowest position being occupied by the group consisting of agricultural, mining and building workers. But there is, on the whole, very little variation between the various groups of manual workers. In each industry one can find the same broad pattern: about a third have no liquid assets, a further third have less than £50 worth and the remainder have varying amounts ranging up to £1,000, a limit which is exceeded in only just over 1 per cent of cases.

The analysis by region shows how the population tends to grow richer in liquid assets as one moves from north to south; and the analysis by size of town suggests that people in small towns have more liquid assets than those in conurbations. The average for the rural areas is much affected by the inclusion of farmers' bank accounts but, even apart from this, there is a strong suggestion here, as in the distribution of income, of a greater tendency towards extremes of wealth and poverty in the countryside than in the towns.

In the final section of Table 39 income units are analysed according to their housing tenure. The first broad division is into heads of households and non-heads of households. More than three-quarters of the latter group are young people living with their parents or relations; some are older people living with their children; and a few are boarders and domestic servants. Generally speaking, this group hold very little capital of any kind; and this is true also of their liquid asset holdings. Within the class of heads of households, those who own their houses have more liquid assets than those who rent. The wealthiest group comprises owner-occupiers whose houses are unmortgaged; one in three of these have liquid assets of £600 or more. Such people are, for the most part, either in the upper income group or advanced in years, and their liquid asset holdings are influenced accordingly. This is the first example, of several that will be mentioned, of how the ownership of one class of asset is associated with the ownership of another.

Summary of the Distribution of Liquid Assets

Having traversed the broad field of liquid assets and studied each separate feature, it will be useful now to change the focus of our vision and look at the scene as a whole. First, in Table 40 we have a summary showing the percentage of income units of each type who own each of the various sorts of liquid assets. These figures, though drawn from the preceding tables, are

TABLE 40

Frequency of Ownership of Each Type of Liquid Asset

Type of income unit	*Percentage of each group who own :*									
	Any liquid assets	*Any National Savings*	*Post Office deposits*	*Trustee Savings Bank deposits*	*Savings Certificates*	*Defence Bonds*	*Other savings banks deposits*	*Building society shares or deposits*	*Co-operative society shares or deposits*	*Joint stock bank deposits*
All income units ...	68	55	36	12	24	4	7	4	23	16
Gross income										
Under £200 ...	51	39	27	9	14	3	3	2	17	8
£200—399	61	49	31	10	19	2	8	2	18	10
£400—599	80	64	45	16	28	3	9	4	34	16
£600—999	89	72	49	15	37	4	7	6	24	37
£1,000 and over ...	95	82	52	12	56	20	4	18	11	74
Occupation of head										
Self-employed ...	84	59	37	7	34	10	8	9	15	39
Managers, etc. ...	96	80	48	15	56	11	8	7	20	70
Clerical and sales ...	79	69	49	15	32	2	9	4	17	16
Skilled manual ...	69	57	38	14	20	1	8	3	26	9
Unskilled manual	55	44	30	10	18	1	6	2	21	4
Retired, etc. ...	58	42	28	9	18	6	4	4	23	18
Age of head										
18—24	54	49	32	11	14	1	7	1	2	3
25—34	71	57	40	14	17	1	6	1	22	13
35—44	72	59	40	10	29	3	9	3	25	17
45—54	72	59	40	14	31	5	10	4	25	19
55—64	73	56	36	13	30	7	5	6	29	23
65 and over ...	62	43	28	8	19	5	4	4	26	19
Sex of head										
Male	70	56	38	13	24	3	7	4	25	17
Female	61	49	32	10	22	5	6	3	15	13
Region										
Scotland	63	45	21	20	15	4	8	1	28	14
North of England...	63	48	27	15	22	3	9	5	23	12
Midlands and Wales	70	55	31	13	26	4	10	2	30	15
South of England ...	72	61	49	8	26	4	3	4	16	21

now placed in juxtaposition. We note how, of the 68 per cent of income units with liquid assets of any kind, as many as 55 per cent have National Savings; how Post Office Savings Bank deposits are first in popularity of all particular types of asset, followed by Savings Certificates and co-operative society shares and deposits; and how, at the other end of the scale, only 4 per cent of income units own Defence Bonds or building society shares and deposits.

In each of the various sub-analyses there is to be discerned a dominant trend, such as the variations in the proportion of income units holding assets as income rises, or with age, or between different occupations. But there are a number of interesting exceptions, of which the figures relating to Trustee Savings Banks provide a series; and the variation in the proportions holding co-operative society shares and deposits also display a number of pecularities.

A somewhat different view of the distribution of liquid assets as a whole can be derived from estimates of the aggregate quantity of each asset held by each group of the population. These arranged in the form of a series of matrices, provide the basis for percentage distributions of two main types. If the percentages are based on the total assets held by each group of income units we get a table, such as Table 41, in which the amounts of each type of asset held by each group are expressed as percentages of the total liquid assets held by that group. If, on the other hand, the percentages are based on the total amount of each asset held by the whole population we get a table, such as Table 42, in which the amounts of each asset held by each group are expressed as percentages of the total quantity of that asset held by all income units. Broadly, Table 41 shows what decisions people of different sorts take about the forms in which to hold their liquid capital: Table 42 shows the

TABLE 41

Ways in which Different Sections of the Population Distribute their Total Liquid Asset Holdings
(*percentages of total liquid assets held by each group*)

Type of income unit	*National Savings*					*Other savings banks*	*Building society shares and deposits*	*Co-operative society shares and deposits*	*Joint stock bank deposits*	*Total liquid assets*
	Total	*Post Office deposits*	*Trustee Savings Bank deposits*	*Savings Certificates*	*Defence Bonds*					
All income units	60	18	8	22	12	3	8	2	27	100
Gross income										
Under £200	66	19	14	13	20	6	4	3	21	100
£200—399	69	27	9	23	10	8	5	3	15	100
£400—599	69	21	9	26	13	3	9	3	16	100
£600—999	63	18	9	29	7	3	7	3	24	100
£1,000 and over	44	9	3	20	12	*	9	*	47	100
Occupation of head										
Self-employed	38	8	4	15	11	1	8	1	52	100
Managers, etc.	62	11	6	35	10	1	8	1	28	100
Clerical and sales	65	24	9	28	4	12	4	4	15	100
Skilled manual	70	30	12	22	6	3	6	5	16	100
Unskilled manual	67	34	11	19	3	8	9	4	12	100
Retired, etc.	65	17	8	18	22	4	9	2	20	100
Age of head										
18—24	81	49	11	17	4	14	1	1	3	100
25—34	67	26	10	27	4	3	3	2	25	100
35—44	67	24	7	29	7	3	6	2	22	100
45—54	55	17	8	21	9	4	7	2	32	100
55—64	61	15	9	21	16	1	10	2	26	100
65 and over	59	15	7	20	17	5	8	3	25	100
Sex of head										
Male	58	18	8	22	10	3	8	2	29	100
Female	70	18	7	24	21	6	4	2	18	100
Total liquid assets										
Under £50	71	42	14	14	1	7	2	10	10	100
£50—99	71	47	9	15	—	7	2	8	12	100
£100—199	73	38	13	21	1	6	1	5	15	100
£200—399	65	29	13	20	3	5	3	4	23	100
£400—599	67	27	14	23	3	3	7	7	16	100
£600—999	65	24	4	29	8	5	7	3	20	100
£1,000–1,999	61	13	9	29	10	2	7	1	29	100
£2,000 and over	51	6	5	19	21	2	11	*	36	100

results of those decisions, when account is taken of the number of people of each sort existing in the population.

The figures given in Table 41 and 42, being based on estimates of average holdings of liquid assets, are subject to rather large errors, the reasons for which we have already noted. They should not, therefore, be relied upon to any considerable extent, but should be treated as illustrative of the tendencies that might be expected to discover themselves in a complete and accurate census of property holdings.

The broad picture of the distribution of personal investment amongst the various types of asset is summarised in the first row of Table 41. Sixty per cent of all liquid assets is in National Savings; nearly 30 per cent is in personal accounts at joint stock banks; and the remainder is in building societies, co-operative societies and other savings banks. The division within the National Savings group corresponds broadly, but not exactly, with the division shown by the published figures of total balances outstanding in National Savings.

National Savings constitute a fairly constant proportion—about two-thirds—of the liquid assets of all income groups below £1,000. For those with incomes of £1,000 and over, however, National Savings, though still important, represent less than half their stock of liquid funds. The explanation of this shift in proportions can be derived, in the main, from a study of the next section of the table. Here it can be seen that there is a marked difference between the self-employed and others in respect of the proportion of assets kept in National Savings, while managers, amongst whom most of the rest of the upper income group are to be found, divide their funds between National Savings and other assets in proportions very similar to the population as a whole. The self-employed would appear to be subject to a distinct occupational influence, which causes them to invest a smaller proportion of their total liquid assets in National Savings and to keep a larger proportion in the joint stock bank.

Another feature worth noting is the very high proportion of their liquid assets that managers keep in the form of National Savings Certificates. This group, amounting to only 6 per cent of the population, hold more than a quarter of all Savings Certificates. The figures appear in Table 42.

Analysis by age group reveals that the under 25's distribute their liquid assets in a manner rather different from the rest. Their total funds are limited; but four-fifths of them are in National Savings, and half is in the Post Office. They have a large proportion in other savings banks; and practically nothing in joint stock banks.

The final section of Table 41 provides an analysis of the composition of the asset holdings of groups of income units who have been classified according to the size of their total liquid asset holdings. It gives an indication of the directions in which people add to their liquid assets most rapidly as their total liquid capital increases. The really small saver, with under £50 in all, keeps, on the average, over 70 per cent of his funds in National Savings—the

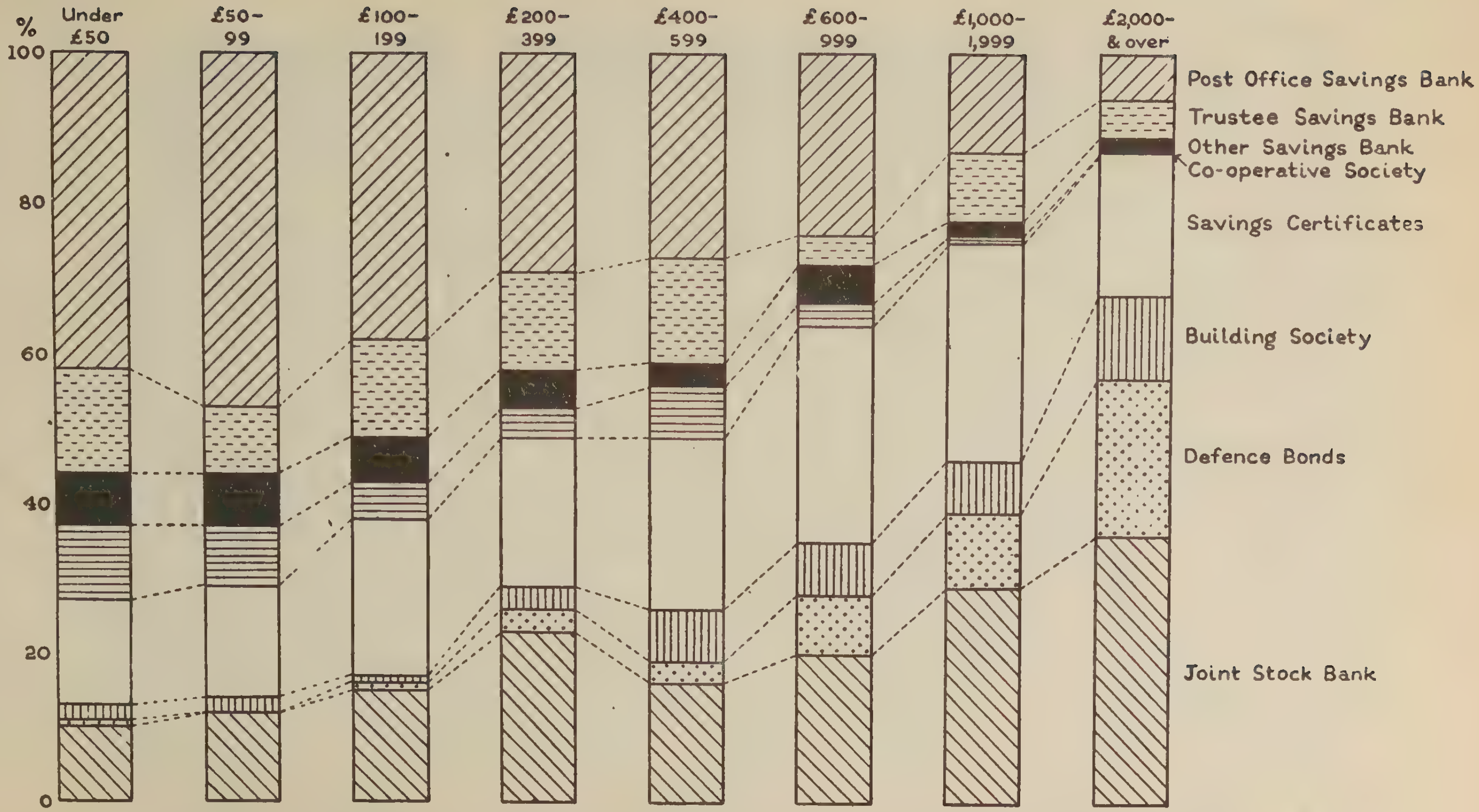


CHART 16. **Percentage Composition of Liquid Asset Holdings at Various Levels of Total Liquid Asset Holdings**

Note.—Each bar shows the composition of the asset holdings of a group of income units, the income units having been grouped according to their total liquid asset holdings.

majority of it in the Post Office Savings Bank—and only 10 per cent in the joint stock bank. Then, as total assets increase, there is a movement away from National Savings, and especially from the Post Office, towards the joint stock bank. In the higher groups there is a quickened development of this trend, combined with a marked growth of investments in Defence Bonds and building society shares and deposits. This section of the table is illustrated in Chart 16.

Turning now to Table 42, we note first that, while there is a marked concentration of liquid assets as a whole in the hands of the top income group, the concentration of National Savings is not quite so great, and less concentrated still are the deposits in the Post Office and Trustee Savings Banks. To that degree these banks can rightly claim to be serving the needs of the 'small saver'. But the organisation in which the upper income group hold the least proportion of total assets is the co-operative society. The analysis by occupation exhibits several features of interest. It may be noted, for example, that the self-employed and managers hold between them some two-fifths of all liquid assets and nearly two-thirds of all joint stock bank deposits. Manual workers, who constitute 54 per cent of the population, hold only 23 per cent of all liquid assets; but they own 27 per cent of National Savings, and 40 per cent of Post Office Savings Bank deposits. They also own 45 per cent of co-operative society shares and deposits.

Perhaps the most interesting section of this table is that which contains the analysis by age. Here it becomes abundantly clear how large a proportion of all liquid assets, and of every individual type, is in the hands of the older members of the population. The income units whose heads are aged less than 45 years constitute nearly half the population; yet their liquid asset holdings amount to only one-fifth of the total. They hold a rather larger share of Post Office Savings Bank deposits and of Savings Certificates; but of some of the other assets they hold smaller proportions, particularly Defence Bonds and building society shares and deposits. The variations in the average liquid asset holdings of the different age groups are illustrated in Chart 17.

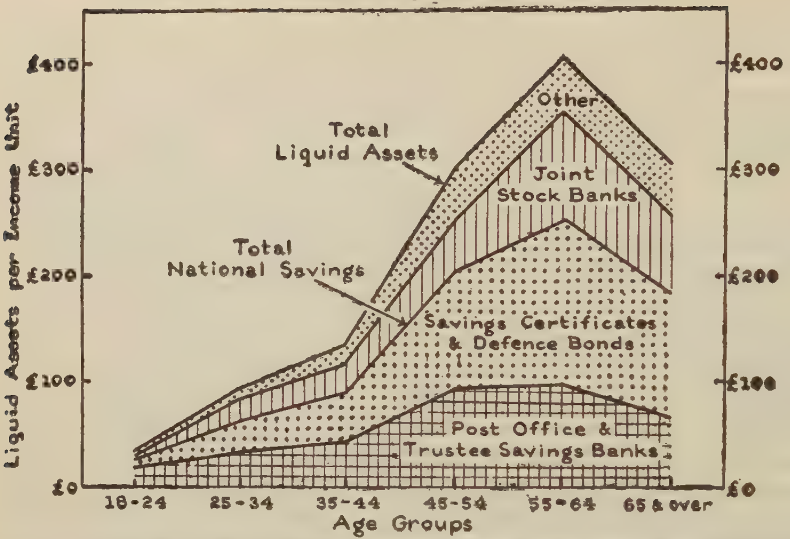
The final section of Table 42 shows what proportions of each asset are held by the groups of income units who have been classified according to their total liquid asset holdings. It reveals a considerable concentration of liquid capital in the hands of those who possess large funds and, as a corollary, a striking deficiency amongst the majority of the population. Thus, 2 per cent of income units, whose total liquid assets amount to £2,000 or more, have command of 42 per cent of all liquid assets, whilst 62 per cent of income units, possessing less than £50 each, control only 2 per cent of the total stock. A Lorenz curve, illustrating these figures, is given in Chart 18, which includes, for purposes of comparison, a similar curve for gross income. The distribution of liquid assets is much more unequal than the distribution of gross income, and, *a fortiori*, of net income.

TABLE 42

The Distribution of Each Type of Liquid Asset amongst the Various Sections of the Population
(percentages of total asset holdings of each type)

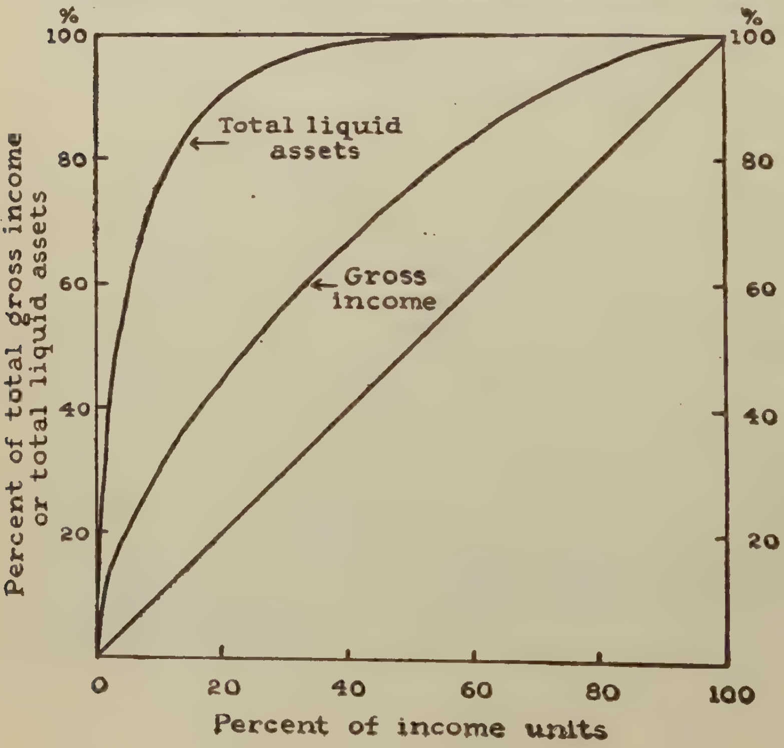
Type of income unit	*Percentage distribution of:*									
	Income units	*Total liquid assets*	*National Savings*					*Building society shares and deposits*	*Co-operative society shares and deposits*	*Joint stock bank deposits*
			Total	*Post Office deposits*	*Trustee Savings bank deposits*	*Savings Certificates*	*Defence Bonds*			
Gross income										
Under £200 ...	24	14	16	15	26	8	23	8	21	11
£200—399	35	18	21	27	20	19	15	11	24	10
£400—599	26	22	25	26	26	27	23	29	32	13
£600—999	11	14	15	15	17	18	9	14	18	12
£1,000 and over ...	4	32	23	17	11	28	30	38	5	54
	100	100	100	100	100	100	100	100	100	100
Occupation of head										
Self-employed ...	6	23	15	11	11	16	21	24	6	44
Managers, etc. ...	6	18	18	11	15	28	14	18	9	18
Clerical and sales ...	12	8	9	11	10	10	2	5	13	4
Skilled manual ...	37	17	20	29	26	17	10	13	35	10
Unskilled manual	17	6	7	11	9	5	1	6	10	3
Retired, etc. ...	22	28	31	27	29	24	52	34	27	21
	100	100	100	100	100	100	100	100	100	100
Age of head										
18—24	12	2	2	4	2	1	1	*	2	*
25—34	18	7	8	10	8	9	2	3	8	6
35—44	19	11	12	15	10	15	7	9	10	9
45—54	19	30	28	29	30	29	21	29	24	37
55—64	14	27	27	22	31	25	36	34	24	26
65 and over ...	18	23	23	20	19	21	33	25	33	22
	100	100	100	100	100	100	100	100	100	100
Sex of head										
Male	75	82	79	83	83	81	69	90	86	88
Female	25	18	21	17	17	19	31	10	14	12
	100	100	100	100	100	100	100	100	100	100
Total liquid assets										
Under £50	62	2	2	5	4	1	*	*	8	1
£50—99	9	3	3	7	3	2	—	1	8	1
£100—199	9	5	6	12	9	5	*	1	11	3
£200—399	7	8	9	15	14	8	2	3	15	7
£400—599 ...	4	9	10	14	16	9	2	8	25	5
£600—999	4	12	14	17	7	16	8	11	16	9
£1,000—1,999 ...	3	19	20	14	22	24	16	16	10	20
£2,000 and over ...	2	42	36	16	25	35	72	60	7	54
	100	100	100	100	100	100	100	100	100	100

CHART 17. Variation of Liquid Asset Holdings with Age



Note.—This chart shows the average liquid asset holding per income unit of each age group, all members of the group being included. Farmers' bank accounts have, in this case, been excluded.

CHART 18. Lorenz Curves of Gross Income and Total Liquid Assets



Further aspects of the concentration of liquid asset holdings are exhibited in Tables 43 and 44. The first column of Table 43 shows the percentage of each category of liquid asset owned by the top tenth of income units, when they have been ranked in order of their gross incomes; and the second column shows the percentage of each category owned by the top tenth of income units, when they have been ranked in order of their total liquid asset holdings. There is evidently much greater concentration of ownership in the latter case than in the former; and this indicates that, while there is an important degree of association between gross income and total liquid asset holding, the association is by no means complete. The proportions in each column, which vary considerably from one category of asset to another, mark the degree to which each asset is either widely dispersed or narrowly concentrated amongst different sections of the population.

TABLE 43

Percentage of the Total of Each Type of Liquid Asset held by the Top Tenth of Income Units

Type of asset	*Percent of total held by top tenth of income units when:*	
	Ranked according to gross income	*Ranked according to total liquid asset holdings*
All liquid assets	43	76
All National Savings	35	73
Post Office Savings Bank deposits ...	23	52
Trustee Savings Bank deposits	20	59
National Savings Certificates	42	78
Defence Bonds	38	97
Other savings bank deposits	10	60
Building society shares and deposits ...	48	90
Co-operative society shares and deposits ...	17	40
Joint stock bank deposits	61	85

TABLE 44

Percentage of Total of Each Type of Asset Held by the Top 5 per cent and Top 10 per cent of Income Units Holding some of the Asset.

Type of asset	*Percent of total of each asset held by the:*	
	Top 5 per cent of those holding some of the asset	*Top 10 per cent of those holding some of the asset*
All liquid assets	50	66
All National Savings	47	62
Post Office Savings Bank deposits ...	40	56
Trustee Savings Bank deposits	38	57
National Savings Certificates	38	55
Defence Bonds	26	40
Other savings bank deposits	45	62
Building society shares and deposits ...	36	50
Co-operative society shares and deposits ...	55	75
Joint stock bank deposits	53	66

Table 44 shows the percentage of each class of asset owned by the top 5 per cent and the top 10 per cent of income units who hold some of that asset. These are measures of the degree to which the total stock of each asset is concentrated in a few hands. The figures in each column lie, for the most part, within a fairly close proximity; but there are two interesting exceptions. Defence Bonds are unusually little concentrated, and co-operative society shares and deposits are unexpectedly heavily concentrated. The explanation is, in both cases, the same. The degree of concentration, as measured by this method, is much affected by the frequency of occurrence of very small asset holders. When, as in the case of Defence Bonds, comparatively few people have small investments in the asset in question the degree of concentration is less; while in the opposite case the degree of concentration is much increased. Since a very large proportion of co-operators hold only one or two shares those who hold, say, £50 worth or more, supply an overwhelmingly large proportion of the total finances of the movement.

THE PRINCIPAL DETERMINANTS OF LIQUID ASSET HOLDINGS: INCOME AND AGE

In concluding this part of our study, it is appropriate to draw together some of the strands of the analysis and to consider whether they furnish an explanation of the observed variations in the liquid asset holdings of individuals. Of the several influences to which we have drawn attention the most important and pervasive are, without a doubt, those of income and age. This is not, perhaps, a startling discovery; yet an empirical investigation such as this can provide a more solid basis for reasoning than the somewhat haphazard conclusions of general knowledge. It is a common enough habit to slur over the difference between wealth and income, or to take it for granted that those who are rich in one respect are equally rich in the other. But, although there is clearly a close bond between income and wealth, which works in both directions, it is a fallacy to assume that all those who possess a stock of capital are rich in income or, equally, that all those with large incomes are rich in capital. Income alone, in other words, does not provide the whole explanation of variations in capital holdings. And if we seek for some other factor which, when combined with income, gives a more complete answer to the problem, the evidence of this survey is such as to direct our choice unequivocally towards the factor of age.

In order to throw further light on the separate effects of income and age the sample was divided in both dimensions simultaneously; and for each of the cells thus formed the average stock of liquid assets per income unit was then obtained. A satisfactory analysis along these lines is possible only for those types of liquid asset that are reasonably widely held, since in other cases the number of sample units falling in each cell is very small. Table 45 gives the results for three specific types of liquid asset and for liquid assets as a whole. Even here some of the figures, especially those relating to the upper income groups, are based on rather small numbers. They should, therefore,

TABLE 45

Analysis of Separate Effects of Income and Age on Liquid Asset Holdings

Type of asset	*Age of head*	*Mean amount of assets per income unit in these gross income groups*					
		Under £200 £	*£200–599* £	*£600–999* £	*£1,000–1,499* £	*£1,500 and over* £	*All* £
Post Office Savings Bank deposits ...	Under 45	8	25	30	118	138	26
	45—64	42	48	95	116	302	66
	65 & over	34	79	80	133	48	47
National Savings Certificates ...	Under 45	6	19	35	130	728	27
	45—64	45	51	152	247	533	88
	65 & over	14	132	349	354	513	63
Joint stock bank deposits	Under 45	3	10	48	149	525	21
	45—64	41	29	102	366	1,918	123
	65 & over	41	103	216	774	695	77
Total liquid assets...	Under 45	52	101	170	506	2,003	93
	45—64	367	277	541	1,160	3,426	390
	65 & over	261	617	1,001	1,630	3,367	310

be treated as only broadly illustrative of the tendencies at work. Nevertheless the figures are very striking: in almost every income group the liquid asset holdings of those aged 45–64 are greater than the holdings of those under 45; while, within these two age groups, liquid asset holdings vary directly with income. The figures for those aged 65 and over are not quite so consistent, but this is probably due to the diversity of conditions experienced by people who pass this age. Broadly the conclusions are clear: the effects of age and income on liquid asset holdings are, in part at least, independent; and each factor exercises an important determining influence on the volume of personal liquid assets held.

B. OTHER ASSETS

We have now completed our study of the distribution of the various types of liquid asset holdings. We turn to consider the extent of ownership of a few selected other assets about which the survey provides information. At the same time, the ownership of these assets will be related to the ownership of liquid assets.

STOCKS AND SHARES

The term, stocks and shares, is used here to embrace all marketable securities, whether issued by governments, municipalities, public boards or companies, but excluding the various liquid assets already discussed. Each person interviewed was asked whether anyone in the income unit owned any stocks or shares. If the answer was yes, he was further asked to indicate the approximate current market value of all the stocks and shares owned by saying in which of one or other of a few broad ranges of value it lay. The analysis of the answers to these questions is given in Table 46.

It is reasonable to assume that the interpretation of these figures should be

TABLE 46

Ownership of Stocks and Shares[1]
(percentage distributions)

Type of income unit	*Value of stocks and shares owned*								*No. in sample*
	Nil	*Up to £100*	*£101–500*	*£501–2,000*	*£1,001-10,000*	*Over £10,000*	*Amount not stated*	*Total*	
All income units ...	94.5	0.9	1.6	1.2	1.1	0.4	0.3	100	2,598
Gross income									
Under £200 ...	96.3	0.6	1.9	0.9	0.1	—	0.2	100	608
£200—399... ...	97.4	0.3	0.6	1.0	0.3	—	0.4	100	813
£400—599... ...	97.3	0.4	1.1	0.4	0.7	*	0.1	100	636
£600—999... ...	87.9	2.8	3.6	2.3	2.3	0.4	0.7	100	346
£1,000—1,499 ...	72.1	6.4	2.5	8.4	5.8	3.8	1.0	100	101
£1,500—1,999 ...	42.5	3.1	11.6	1.9	31.2	9.6	—	100	41
£2,000 and over ...	48.6	1.6	7.2	10.0	13.5	19.1	—	100	53
Total liquid assets									
Nil	99.5	0.2	0.2	0.1	—	—	—	100	755
£1—49	98.5	0.4	0.6	0.1	0.2	0.2	—	100	631
£50—99	96.9	0.5	0.8	1.8	—	—	—	100	201
£100—199... ...	95.7	—	2.1	1.5	0.6	0.1	—	100	215
£200—399... ...	88.0	2.9	2.4	2.2	2.1	0.4	2.0	100	199
£400—599... ...	86.7	2.9	2.3	4.8	1.6	1.0	0.7	100	116
£600—799... ...	78.5	5.1	6.8	4.5	2.7	2.4	—	100	71
£800—999... ...	82.5	1.0	—	7.2	9.3	—	—	100	48
£1,000—1,499 ...	73.3	3.2	9.8	6.4	6.5	0.8	—	100	72
£1,500—1,999 ...	54.5	7.0	21.5	3.1	6.2	1.3	6.4	100	40
£2,000 and over ...	46.9	3.1	10.5	11.4	19.0	8.4	0.7	100	88
Not ascertained ...	93.6	0.9	2.0	1.0	1.2	0.4	0.8	100	162
Occupation of head									
Self-employed ...	86.4	3.2	3.8	3.8	1.6	1.0	0.2	100	230
Managers, etc. ...	77.7	2.7	4.5	2.5	8.2	3.2	1.2	100	259
Clerical and sales	97.0	0.7	0.9	0.8	0.3	0.1	0.1	100	330
Skilled manual ...	98.5	0.7	0.6	0.2	—	—	—	100	807
Unskilled manual	99.5	0.1	0.1	0.3	—	—	—	100	388
Retired, etc. ...	89.7	0.7	3.3	2.9	2.1	0.5	0.8	100	571
Age of head									
18—24	99.4	0.5	—	—	0.1	—	—	100	296
25—34	97.6	0.6	0.6	0.1	0.9	0.1	0.1	100	456
35—44	96.0	1.1	0.9	1.0	0.4	0.6	—	100	492
45—54	93.1	1.0	2.5	1.7	1.2	0.4	0.1	100	499
55—64	91.6	1.3	3.0	1.4	1.4	0.8	0.5	100	382
65 and over ...	90.4	0.8	2.2	2.9	2.4	0.4	0.9	100	473
Sex of head									
Male	94.7	1.1	1.3	1.0	1.2	0.5	0.2	100	1,918
Female	94.1	0.2	2.5	1.9	0.8	0.1	0.4	100	680
Region									
Scotland ...	94.1	0.1	2.2	1.5	1.8	0.1	0.2	100	317
North of England	95.7	0.4	1.5	1.1	0.8	0.4	0.1	100	612
Midlands & Wales	94.7	1.9	1.3	0.8	0.6	0.6	0.1	100	532
South of England	93.8	0.9	1.6	1.4	1.4	0.4	0.5	100	1,137
Housing tenure									
Owner, without mortage ...	78.7	2.2	5.7	5.0	5.2	1.9	1.3	100	381
Owner, with mortgage	92.0	1.7	2.2	1.4	2.3	0.4	—	100	242
All owners ...	84.5	2.0	4.2	3.4	3.9	1.3	0.7	100	623
Tenants	97.4	0.6	0.8	0.6	0.2	0.2	0.2	100	1,299
Non-heads of households	97.3	0.6	0.8	0.7	0.4	0.1	0.1	100	676

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[1] Stocks and shares include all marketable securities other than those already included in liquid assets. Thus Defence Bonds and Savings Certificates are excluded.

qualified in the same way as was necessary for those relating to liquid assets. Since the survey failed to obtain an adequate representation of the larger property-owners the estimates derived from the survey of the proportion of people owning stocks and shares, and especially of those owning large amounts of stocks and shares, are likely to be too low. How much difference this bias makes it is difficult to assess; but it is improbable that the proportion of stock and share owners in the population as a whole would be increased, in a perfect representation, by more than one percentage point, *i.e.*, from 5.5 to 6.5 per cent. The proportions of stock and share owners in some of wealthier sub-groups of the population, however, *e.g.*, those in the upper income ranges, would probably be increased by several percentage points.

In the whole population of income units in private households it is estimated that at least 5½ per cent, or 1¼ million income units, own some stocks or shares. About half of these own £500 worth or less. The proportion who own stocks or shares increases appreciably amongst those whose incomes exceed £700 a year, and especially amongst those with £1,500 a year or more. About one in three of the latter group have stocks and shares to a value exceeding £2,000. The ownership of these securities is also associated to some degree with the size of liquid asset holdings: for example, amongst those whose total liquid assets amount to £2,000 and over, more than one in four have stocks and shares to the value of over £2,000.

Amongst the occupational groups, clerical and manual workers very rarely own stocks or shares, but as many as 22 per cent of the managers have investments of this sort. The self-employed and the retired are in an intermediate position. As with other assets, stocks and shares are held more frequently by the older age groups than by the younger; but the proportion who own them does not vary appreciably between regions. Finally, the analysis by housing tenure shows that the ownership of stocks and shares is considerably more frequent amongst owner-occupiers than amongst others, the difference being especially marked for those whose houses are unmortgaged.

Purchase and Sale of Stocks and Shares

Each person interviewed was also asked whether he had bought or sold any stocks or shares during the past year, *i.e.*, during 1951–52. Just over 2 per cent reported that either a purchase or a sale had been made; but, as can be seen from Tables 47 and 48, the proportion who bought or sold stock market assets was much greater in the upper income groups, and amongst those with larger holdings of these securities. Of the income groups, only an insignificant proportion of those with incomes below £800 a year engaged in stock exchange transactions; of those with incomes between £800 and £1,500, about one in ten bought or sold stocks or shares sometime during the year; and of those with incomes of £1,500 and over, one in five had made at least one transaction.

It is natural to presume that the greater the size of a person's total stock

TABLE 47

Purchase or Sale of Stocks or Shares, by Gross Income Groups

Gross income of income unit	*Percent owning stocks or shares at end of year*	*Percent who bought or sold during the year*
Under £100	1.6	0.2
£100—199	4.8	0.8
£200—299	4.7	1.3
£300—399	1.2	1.6
£400—499	2.1	0.8
£500—599	3.6	2.6
£600—699	3.1	0.4
£700—799	22.2	3.0
£800—999	17.9	11.8
£1,000—1,499	27.9	8.1
£1,500—1,999	57.5	22.9
£2,000 and over	51.4	22.3
All	5.5	2.1

TABLE 48

Relation between Purchase and Sale of Stocks or Shares and Amount of Stocks and Shares Owned

Amount of stocks and shares owned at end of year	*Percent who bought or sold during the year*	*Of total number who bought or sold, per cent holding each amount at end of year*
Nil	1	42
£1—100	9	4
£101—500	9	7
£501—2,000	20	12
£2,001—10,000	44	23
Over £10,000	67	12
All	2	100

holding the greater the chance that sometime in the course of a year he will make a purchase or sale. The presumption is confirmed in Table 48; and it may well be held to provide the chief explanation of the variations in the behaviour of the different income groups, shown in Table 47. But Table 48 also shows that a large proportion of those who bought or sold stocks or shares during the year had no assets of this kind at the time of interview. Some of these, doubtless, were people who liquidated their investments during the year ; but it also seems likely that a fairly large proportion of the people who engage in stock exchange transactions are without a permanent stake in this field.

Finally, Table 49 gives the distribution of income units according to gross income and according to total liquid asset holdings for the various classes of owners of stocks and shares. It shows that, for example, about nine-tenths of those with stocks and shares of over £10,000 have incomes of £1,000 a year and over, while only about half of the same group have liquid assets of £1,000 and over. There is, of course, a necessary correlation between the magnitude of stock and share holdings and the level of gross income, since

TABLE 49

Distribution by Gross Income and by Total Liquid Asset Holdings of Income Units with Varying Amounts of Stocks and Shares
(percentage distributions)

Type of income unit	*Value of stocks and shares owned*						*All income units*
	Nil	*Up to £100*	*£101–500*	*£501–2,000*	*£2,001–10,000*	*Over £10,000*	
Gross income							
Under £200 ...	24	16	29	17	3	—	24
£200—399	36	14	13	29	10	—	35
£400—599	27	13	18	8	16	3	26
£600—999	11	36	27	21	24	10	11
£1.000—1,999 ...	2	19	9	17	35	41	3
£2,000 and over ...	*	2	4	8	12	46	1
	100	100	100	100	100	100	100
Total liquid assets							
Nil	34	6	4	2	1	3	32
Under £100 ...	37	19	15	13	4	12	35
£100—399	14	22	21	22	17	10	15
£400—999	6	26	14	29	22	22	7
£1,000—1,999 ...	2	15	26	12	17	7	3
£2,000 and over ...	1	6	12	17	32	39	2
Not ascertained ...	6	6	8	5	7	7	6
	100	100	100	100	100	100	100

stocks and shares generate income; and there is no such necessary connection between stocks and shares and liquid assets. On the contrary, the two types of asset are competitive, inasmuch as they offer alternative outlets for the investment of personal capital.

HOUSING TENURE

From each person interviewed information was collected about the housing tenure of the income unit to which he belonged. Income units whose heads are not heads of households, such as those who live with their relations, and boarders and domestic servants, have no direct tenure of housing accommodation. Heads of households divide into tenants (including some who live rent free) and owners; and the latter in turn can be divided into those who have a mortgage on their house and those who have not. The distribution of income units according to these categories is given in Table 50.

About a quarter of all income units are non-heads of households; about half are tenants; and 22 per cent are owners. The latter comprise 12 per cent whose houses are unmortgaged and 10 per cent whose houses are under mortgage. It can be deduced from these figures that there are over 16 million private households in Great Britain. The 1951 Census recorded 14½ million. Part of the discrepancy may be due to minor differences of definition; but it is also probable that in the survey the response rate of heads of households was more favourable than that of non-heads of households, the latter being more frequently out or away from home. If we assume a figure of some-

TABLE 50

Housing Tenure of Income Units of Various Types (percentage distributions)

Type of income unit	*Heads of households*				*Non-heads of households*	*Total*	*No. in sample*
	Owners			*Tenants*			
	Without mortgage	*With mortgage*	*All owners*				
All income units	12	10	22	52	26	100	2,598
Gross income							
Under £200	13	2	15	44	41	100	608
£200—399	10	6	16	49	35	100	813
£400—599	9	12	21	68	11	100	636
£600—999	13	25	38	53	9	100	346
£1,000 and over	47	22	69	29	2	100	195
Occupation of head							
Self-employed	27	18	45	48	7	100	230
Managers, etc.	21	27	48	39	13	100	259
Clerical and sales	6	11	17	33	50	100	330
Skilled manual	7	10	17	57	26	100	807
Unskilled manual	7	4	11	60	29	100	388
Retired, etc.	22	4	26	54	20	100	571
Age of head							
18—24	—	1	1	7	92	100	296
25—34	2	11	13	54	33	100	456
35—44	6	14	20	66	14	100	492
45—54	18	16	34	57	9	100	499
55—64	19	9	28	64	8	100	382
65 and over	27	3	30	53	17	100	473
Sex of head							
Male	13	12	25	56	19	100	1,918
Female	11	3	14	38	48	100	680
Region							
Scotland	7	4	11	55	34	100	317
North of England	13	9	22	55	23	100	612
Midlands and Wales	13	10	23	49	28	100	532
South of England	13	11	24	51	25	100	1,137

thing over 15 million households, on our definition, we can estimate that there are about 4½ million owner-occupied dwellings, of which 2½ million are unmortgaged and 2 million mortgaged.

The analyses in Table 50 show how the proportions of owners and tenants vary in the different sub-groups of the population. Thus, more than two-thirds of income units with gross incomes of £1,000 a year or more own their homes; nearly half the self-employed and managers are owner-occupiers and 17 per cent of clerical workers and skilled manual workers; one in four of the retired and unoccupied are owners, most of them, as might be expected, without a mortgage.

Amongst the different age groups, scarcely any of the under 25's are heads of households, and, of those who are, very few are owners. In the next age group the heads of households constitute two-thirds of the total and the proportion of owners is increasing; but most of the owners in this group are still buying their houses on a mortgage. The same trend continues in the next age group; but after the age of 45 the number of owners who are free of mortgage begins to exceed those who are still indebted. In the 45–54 age group the proportion of owners reaches a maximum, and it is in this age group also that the proportion of mortgages is at its greatest.

The regional analysis shows comparatively few differences, except in the case of Scotland. Here the proportion of non-heads of households is much greater than elsewhere, presumably a reflection of more severe conditions of housing shortage and greater overcrowding. The proportion of owners is only half what it is in England and Wales, and tenants are relatively more numerous.

The owner-occupiers, with and without mortgages, can be classified according to the rateable value of their property. It would be very rash to maintain that there is any necessary connection between rateable values and current capital values, since the former are calculated by methods that vary from district to district and are also based on pre-war conditions. Property values themselves are of several varieties, according to the degree of vacancy of possession offered. Nevertheless, it might be taken as a rough guide to capital values if we multiply rateable values by a factor of a hundred. Even this, of course, can be applied only to the houses that are free of mortgage, the others being subject to charges which reduce to a greater or less degree their net value to the owner.

Table 51 contains an analysis of the relation between the rateable values of the houses of owner-occupiers and their holdings of liquid assets and stocks and shares. It shows clearly that owners who are free of mortgage debt are much better off in respect of each of the other types of asset than their fellows who are still buying their houses. At the same time, in both parts of the table, despite this general difference, there is an association between the rateable value of the house and the volume of liquid assets or stocks and shares owned.

Summary: The Ownership of Major Assets

In this paper three major types of asset have occupied our attention—liquid assets, stocks and shares, and owner-occupied houses. We have studied the distribution of each amongst the different sections of the population, taking note in passing of certain tendencies for the ownership of one type of asset to be associated with the ownership of others. To review, and at the same time to conclude, this paper, we bring together in one table (Table 52) an index figure for each of the above three types of asset, and similar figures relating to two other types of asset, namely, (1) the percentage of income units who own a car and (2) the percentage in which the *head* of the income unit owns a business, farm or professional practice. This last, because it relates only to the property of the heads of income units, omits businesses and professional practices owned by married women and, as a consequence, slightly underestimates the total number of assets of this sort that are privately owned.

TABLE 51

Liquid Assets and Stocks and Shares Owned by Various Classes of Owner-Occupiers

(*a*) *Owners without mortgages*

	Rateable value of house					
Type of income unit	*Under £10*	*£10–19*	*£20–29*	*£30–39*	*£40 and over*	*All*
Total liquid assets						
Nil	26	8	7	7	1	10
Under £100	13	19	17	10	8	15
£100—399	20	35	23	20	17	26
£400—999	16	19	21	18	18	18
£1,000 and over	19	12	23	34	45	22
Not ascertained	6	7	9	11	11	9
Total	100	100	100	100	100	100
Value of stocks and shares						
Nil	92	90	77	69	36	79
Up to £100	2	3	2	2	2	2
£101—500	4	2	11	6	9	6
£501—2,000	—	2	6	10	15	5
£2,001—10,000	—	1	4	7	25	5
Over £10,000	—	—	—	4	12	2
Not ascertained	2	2	—	2	1	1
Total	100	100	100	100	100	100

(*b*) *Owners with mortgages*

	Rateable value of house					
Type of income unit	*Under £10*	*£10–19*	*£10–29*	*£30–39*	*£40 and over*	*All*
Total liquid assets						
Nil	40	13	4	12	10	15
Under £100	46	51	42	36	26	45
£100—399	—	16	37	21	27	20
£400—999	3	10	12	14	19	10
£1,000 and over	3	3	—	10	11	4
Not ascertained	8	7	5	7	7	6
Total	100	100	100	100	100	100
Value of stocks and shares						
Nil	100	97	85	85	74	92
Up to £100	—	1	2	4	5	2
£101—500	—	1	3	6	9	2
£501—2,000	—	1	2	—	5	1
£2,001—10,000	—	—	8	3	3	2
Over £10,000	—	—	—	2	4	1
Not ascertained	—	—	—	—	—	—
Total	100	100	100	100	100	100

The index figure chosen for liquid assets and stocks and shares is, in each case, the percentage of income units who own more than about £500 worth. It is an arbitrary division, but one which is intended to bring into relief that section of the population who have a substantial quantity of capital invested in either direction. The minimum value of the investment in the other three

TABLE 52

Ownership of Certain Major Assets

Type of income unit	*Percent of each group who own*				*Percent of income units whose head owns business, farm, or professional practice*
	Liquid assets of £500 or over	*Stocks or shares of over £500*	*Owner-occupied house*	*Car*	
All income units	11	3	22	8	6
Gross income					
Under £200	7	1	15	1	2
£200—399	7	2	16	4	4
£400—599	9	1	21	10	6
£600—999	18	5	38	19	12
£1,000 and over	62	29	69	51	41
Occupation of head					
Self-employed	33	6	45	34	100
Managers and technical	34	15	48	34	—
Clerical and sales	8	1	17	6	—
Skilled manual	5	*	17	6	—
Unskilled manual	4	*	11	2	—
Retired, etc.	14	6	26	4	—
Age of head					
18—24	1	*	1	1	*
25—34	4	1	13	8	5
35—44	7	2	20	12	9
45—54	15	3	34	11	11
55—64	19	4	28	11	9
65 and over	19	6	30	5	4
Sex of head					
Male	12	3	25	10	8
Female	7	3	14	2	3
Region					
Scotland	9	3	11	4	6
North of England ...	10	2	22	9	6
Midlands and Wales ...	11	2	23	8	6
South of England	12	3	24	9	7

sorts of asset cannot be thus specified: in some cases it will be less than £500, notably for many of the older cars. But we shall not go far wrong if we asumes that the people who appear in Table 52 are at least at the approaches of becoming property owners.

There are, perhaps, men of substance who do not own one or other of these five sorts of assets, as, for example, someone who owns other property but not his own house, or who keeps his wealth in a mattress. But it is not a common occurrence. In the other direction, it should be noted that there is a good deal of overlapping between the categories listed. The largest group, the owner-occupiers, amounting to 22 per cent of the total, already include about two-thirds of each of the first two categories, and half of each of the last two. The maximum addition to the total from these other sources is therefore 12 per cent, and, when allowance is made for overlapping between the smaller groups themselves, the net addition would probably be less than 8 per cent. From a special analysis, limited to the first three types of asset—liquid assets of £500 and over, stocks and shares of over £500, and owner-occupied houses—it was found that 27 per cent of income units own at least one of these three, 7½ per cent own any two, and 1½ per cent own all three.

It is interesting to note that the principal means by which property ownership is diffused amongst the population is through the private ownership of dwellings. Indeed, in almost every sub-group of the population the number of owner-occupiers exceeds the number who have any one of the other major assets. The one exception to this occurs in the case of the self-employed, all of whom, by definition, have a business or professional interest. Dwelling property is relatively of greatest importance to the working class, amongst whom owner-occupiers are three times as numerous as those with substantial amounts of liquid assets, or even those with cars. The number of workers with stock or share holdings exceeding £500 is negligible.

In general, the proportions of owners of each of these assets follow a standard pattern: they increase with income, they are at their maximum amongst the self-employed and managers, they are associated with age (with some tendency to decline towards the end of life), and, in at least three cases, they are at a higher level in the south than in the north. These factors are by no means independent of one another, and, in particular, there is unlikely to be anything in the regional differences that cannot be completely accounted for by the other three factors. Occupation, also, is closely associated with income, and may not exercise much independent influence. It is very probable that the principal effects can be traced to the factors of income and age which, as we have already seen in the case of liquid assets, are to a large extent independent of one another. That there is a strong bond of association between income and capital is obvious; but our figures show that this relation is deeply modified by the influence of age, which closely rivals income for the position of chief determinant of personal wealth.

H. F. LYDALL

ERRATUM

BULLETIN Volume 15, No. 2–3, February–March, 1953. In the article 'National Survey of Personal Incomes and Savings' p. 62, the figure at the top of the last column but one in Table 17, namely, the mean transfer income of all income units with transfer income, should be £57 and not £42.

AN INDEX OF TEACHERS' SALARIES[1]

The majority of teachers in England and Wales are employed by local authorities and their salaries are fixed by the Burnham and Pelham scales. During recent years there have been several revisions of these scales, and the purpose of this article is to summarise the effect of these changes by constructing a salaries index.

The main characteristics of teachers' salary scales are a basic minimum, increments for service and the prospect of promotion to a higher grade. Before discussing these scales in detail, however, it is necessary to consider the nature of the index required.

The distinction between an earnings index and a rates index is as important for salary earners as it is for wage earners, though not for the same reasons. A salary earnings index will reflect changes in the age structure of the group and changes due to rapid promotion consequent upon the sudden expansion of a service, though the effect of these factors would be excluded from a salary rates index. The first factor has been particularly important for the teaching profession in recent years. The teachers from the emergency training scheme have reduced the average age, or at least the average length of service of teachers in the schools, so that the median salary for assistant masters in primary and secondary schools was ten per cent lower at March 31st, 1951, than it had been at March 31st, 1947, although the 1948 Burnham award had given assistant masters a small increase. Any assessment of recent changes in the Burnham scales must therefore be made in terms of a salary rates index.

From the point of view of the teacher who makes teaching his or her career, the most useful concept on which to base a salary rates index appears to be that of the total income to be earned throughout a normal working life.[2] Such an index reflects changes in both the minimum and maximum salaries for a particular grade, and also in the increments by which the latter is reached. It can also take account of promotion prospects, and changes in those prospects caused by the creation of new grades. The chief disadvantage of an index of this type is that its construction involves a number of somewhat arbitrary decisions concerning the length of a normal working life and the field over which promotion prospects can be considered normal. For teachers whose salaries are fixed by the Burnham and Pelham scales, this disadvantage is not serious; reasonable assumptions are possible in both cases.

The schools and colleges maintained by local authorities are of four main types and each has its own salary scale. These types are, primary and secondary schools, special schools, establishments for further education and training colleges. In defining promotion prospects for teachers, I have assumed that each of these groups is self-contained; i.e. that the young teacher entering a primary or secondary school may hope to achieve a senior post or headship in this same type of school, but not that he should become a lecturer in either a technical college or training college. Of course some primary and secondary school teachers obtain such posts and others may obtain appointments outside the range of the Burnham scales, in administration or the inspectorate. But these possibilities cannot be described as normal promotion prospects for two reasons. The first is that the number of such promotions is very small, and the second that competition for such posts is not limited to primary and secondary school teachers.

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[1] I should like to thank the Ministry of Education for providing me with statistical data relating to teachers' salaries. The Ministry is, of course, in no way responsible for the use that I have made of this information.

[2] The Institution of Professional Civil Servants have used the aggregate salary for ages 30 to 60 when comparing the rates of remuneration for different classes of civil servant ; see reference in Professional People, R. Lewis and A. Maude, pages 98 and 105.

For this purpose, promotion prospects must be calculated from the establishment at a given date. They cannot be obtained from the vacancies filled during a given period, since these are affected by the number of retirements and by the current rate of expansion or contraction of the service. If it is customary for relatively large numbers of persons to leave the profession after a few years, an appropriate fraction of the basic grade may be disregarded in the calculation of establishment ratios: otherwise the promotion prospects of those who stay will be underestimated.

The length of a normal working life must depend on the length of training required and the normal age of retirement. I have assumed it to be forty years for teachers, since this is the length of service required for a full pension under the Government pension scheme. It is convenient to express promotion prospects in terms of the average number of years of a normal working life to be spent in each grade.

There is another difficulty common to all Burnham and Pelham scales which must be discussed here. The rate paid to a teacher in a particular grade varies with the sex and qualifications of the teacher and the district in which he or she is employed. The promotion prospects of men and women, graduates and non-graduates may well differ from each other, but I have not been able to estimate them separately. For each group of teachers I have therefore combined the expected incomes for the different kinds of teachers in the group, assuming all to have the same prospects of promotion. I have however simplified the problem by assuming that all qualified teachers are either two-year trained non-graduates or four-year trained graduates.[1]

The first post-war revision of the Burnham scales took effect from April 1st, 1945. This is a convenient starting point for this study. There have been three important changes since then; on April 1st, 1948; April 1st, 1951, and July 1st, 1952. There have also been a number of minor changes relating to the granting of study and graduate allowances. These changes could only apply to a small number of teachers and their effect on a salaries index for all teachers would be negligible.

During the years 1945 to 1952 there has been some change in the proportion of teachers employed in different types of school and college as well as some change in the proportion of men and women teachers. Promotion prospects and the weights used for combining the expected incomes of the different kinds of teacher have been derived from data for 1951. The numbers employed at March 31st, of that year in the four main types of school and college are shown in Table I.

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[1] Graduates include graduate equivalents as defined by the Burnham scales.

It is obvious that primary and secondary schools form the dominant group. I will therefore consider these first. Table II gives details of employment in these schools and Table III summarises the salary scales and gives a selection of index numbers. Notes on the calculation of this index are given in an appendix, but the main points are described below.

The Burnham scale for primary and secondary schools recognises two main categories of teacher, qualified and unqualified, for both of whom basic scales are determined. Additions may be made to these basic salaries for the qualifications of the teacher i.e. graduate and study allowances or for the nature of the work done, i.e. special responsibility and head teacher allowances. There is also a London allowance. I have therefore calculated the total income for a normal working life in these five parts. Estimates of income from these five sources are not equally reliable; those for special responsibility allowances and head teacher allowances present the most difficulty.

Since 1948 salaries for head teachers have been determined by the salary that they would have received as assistants together with an allowance depending on the number and age of the pupils in their schools. The 1945 Burnham award set out a separate scale for head teachers; I have therefore calculated appropriate allowances for this year.

The Burnham awards for 1945 and 1948 fixed maxima and minima for special responsibility allowances as well as the proportion of posts which could be recognised for these allowances. The 1951 award only fixed a minimum allowance, though some indication of the range of permitted expenditure is given. I have calculated average allowances for 1945 and 1948 from estimates of actual expenditure, and an average allowance for 1951 from an estimate of permitted expenditure. This method is not very satisfactory. But though these allowances can make a very considerable difference to individual salaries, they form only a small part of the average salary. Even extreme assumptions concerning changes in these allowances give values of the total income index for 1952 of 130 and 133 compared with 132 obtained by the method that I have chosen.

For primary and secondary school teachers the basic salary is by far the largest part of total salary and the total income index follows the basic salary index fairly closely.

The scales for teachers in special schools are the same as those for teachers in primary and secondary schools, except that such teachers receive two extra increments at all points on the scale. Also different qualifications are recognised for allowances and different methods of estimating unit totals for schools and head teacher allowances are adopted. Changes in the salaries for

TABLE I

Teachers in Full-time Service in Maintained Schools and Establishments at March 31st, 1951

	Men	*Women*	*Total*
Primary and secondary schools	82,881	132,101	214,982
Special schools	912	1,811	2,723
Establishments for further education	6,784	1,393	8,177
Training colleges	421	955	1,376
Others[1]	2,477	1,333	3,810
Total	93,475	137,593	231,068

Source ; Cmd. 8554.

[1] Others include teachers in more than one type of service and in farm institutes.

TABLE II

Teachers in Full-time Service in Maintained Primary and Secondary Schools at March 31, 1951

	Men	*Women*	*Total*
Head teachers :			
Graduate qualified	2,845	1,134	3,979
Non-graduate qualified	9,799	13,848	23,647
Unqualified	—	27	27
All head teachers	12,644	15,009	27,653
Assistant teachers :			
Graduate qualified	17,604	13,684	31,288
Non-graduate qualified	52,187	97,799	149,986
Unqualified	446	5,609	6,055
All assistant teachers	70,237	117,092	187,329

Source ; Cmd. 8554.

TABLE III

Summary of the Burnham Scale for Teachers in Primary and Secondary Schools

	April 1, 1945	*April 1, 1948*	*April 1, 1951*	*July 1, 1952*
Salary rates, men :				
Basic minimum	£300	£300	£375	£415
Basic maximum	£525	£555	£630	£670
Number of annual increments	15	17	14	14
Allowances :				
Graduate[1]	£60	£60	£96	£96
Special responsibility,				
proportion of posts	14—16%	12½—17½%		
value	£50—100	£50—150	£40—	£40—
Head teacher		£55—900	£55—900	£55—900
London, at minimum	£36	£36	£36	£36
at maximum	£48	£48	£48	£48
Index numbers :				
Man non-graduate :				
at minimum	100	100	125	138
at maximum	100	106	120	128
at maximum with London allowance	100	105	118	125
Man graduate :				
at minimum	100	104	137	148
at maximum	100	105	124	131
All teachers :				
Basic salary	100	104	121	130
Total income	100	105	124	132

Sources of salary rates : Report of the Burnham Committee on Scales of Salaries for Teachers in Primary and Secondary Schools, England and Wales, 1945.

Ditto, 1948. Ditto, 1951. Addendum August, 1952.

[1] This graduate allowance was payable to a four year trained teacher with a degree or equivalent qualification. In 1945 the full allowance was only given to assistant teachers on maximum salary who were not receiving a special responsibility allowance. No account has been taken of the extra allowance payable to holders of first class degrees under the 1948 award.

these teachers are adequately represented by the index for primary and secondary school teachers already calculated.

The term Establishments for Further Education includes technical and commercial colleges and institutes and art collges. It will be convenient to refer to the salary scales for teachers in these establishments as technical college scales.

In 1945 two grades of assistant were employed in technical colleges. The lower grade was on the same scale as primary and secondary school teachers; the senior assistant grade was on a somewhat higher scale. Both grades were eligible for study allowances and the lower grade were also eligible for degree and special responsibility allowances. There were also scales for heads of departments; these varied according to the size and nature of the work done in the department and the lowest of these scales corresponded to that for senior assistants. There were no fixed scales for principals, but the salaries of many of these were similar to those of heads of departments in the larger colleges. At March 31st, 1951 only twenty per cent of principals were receiving larger salaries than the highest paid heads of departments. I have therefore treated heads of departments and principals as a single group.

In 1948 the scales and allowances were increased, but in 1951 the grading system was altered. There are still two grades of assistant; Grade A has the same scale as teachers in primary and secondary schools, and Grade B has a somewhat higher scale. Both grades are eligible for degree and study allowances. Two new grades of lecturer and senior lecturer were created, and the lowest of the new scales for heads of departments now corresponds to the lecturer scale. As before no scales are given for principals.

Although no information is available concerning the relative numbers in the new grades, the following assumptions appear reasonable. The Burnham award accepts the principle that no teacher should receive a lower salary on the new scale than he received on the old scale. This condition is satisfied if assistants without responsibility allowances were placed on Grade A, those with responsibility allowances on Grade B, and all senior assistants were placed on either the lecturer or senior lecturer scale. If these assumptions are accepted, the weighting system derived from employment at March 31st, 1951, can be applied to both the new and the old scales.

Details of employment in technical colleges are given in Table IV and a summary of technical college scales and a total income index are given in Table V.

The index for teachers in training colleges presents another difficulty. Most, if not all training college teachers have had some teaching experience in schools or other institutions. The salary scales which provide for two grades of lecturer, arrange that the starting salary should be determined by the length of this experience. Two methods of calculating a total income index are available. The first method ignores previous experience and assumes that all lecturers start at the minimum, but have a shorter working life than school teachers. The other method bases the index on the salary for years

TABLE IV

Teachers in Full-time Service in Establishments for Further Education, at March 31, 1951

	Men	Women	Total
Principals	478	64	542
Heads of departments	641	62	703
Senior assistants	1,282	100	1,382
Assistants	4,439	1,192	5,631
Total	6,840	1,418	8,258

Source: Cmd. 8554.

The total number of teachers shown here is slightly higher than that given in Table I, since this table includes direct grant establishments.

TABLE V

Summary of the Burnham Scales for Teachers in Establishments for Further Education

	April 1, 1945	April 1, 1948	April 1, 1951	April 1, 1952
Salary rates, men.				
Assistant, basic minimum	£300	£300		
basic maximum	£525	£555		
% s.r.a.	19—21	20—27½		
value s.r.a.	£50—100	£50—150		
Grade A, minimum			£375	£415
maximum			£630	£670
Grade B, minimum			£450	£490
maximum			£725	£765
Graduate allowance[1]	£60	£60	£96	£96
Senior assistant, minimum	£600	£700		
maximum	£750	£800		
graduate allowance	£30	£60		
Lecturer, minimum			£900	£940
maximum			£1,000	£1,040
Senior lecturer, minimum			£1,000	£1,040
maximum			£1,150	£1,190
London allowance, minimum	£36	£36	£36	£36
maximum	£48	£48	£48	£48
Total income index, men and women ...	100	109	130	137

Sources of salary scales: Report of the Burnham Committee on the Scales of Salaries for Teachers in Establishments for Further Education, England and Wales, 1945.
Ditto, 1948. Ditto, 1951. Addendum No. 1 August, 1952.

[1] See note to Table 3.

worked in schools as well as those worked in training colleges. The latter index would reflect changes in school salaries as well as changes in training college salaries; I have therefore chosen the former method. I have assumed a normal working life of thirty years, equally divided between the two grades, since this is the establishment recommended by the committee. No scales are available for principals; the index shown in Table VI has been calculated from scales for lecturers together with the London allowance.

The index numbers for teachers in training colleges and technical colleges are less reliable than those for teachers in schools, since they are based on less adequate data. Nevertheless it is possible to conclude that these teachers have benefitted more from recent changes than have school teachers. It would be interesting and useful to take this analysis a little further and to compare the effect of recent changes on teachers in different types of school, but the necessary data are not available.

TABLE VI

Summary of the Pelham Scales for Teachers in Training Colleges.

	April 1, 1945	*April 1, 1948*	*April 1, 1951*
Salary rates, men			
Lecturer, minimum	£400	£450	£550
maximum	£650	£725	£850
Senior lecturer, minimum	£600	£700	£800
maximum	£750	£850	£1,050
London allowance, minimum	£36	£36	£36
maximum	£48	£48	£48
Total income index, men and women	100	114	138

Sources of salary scales: Report of the Committee on the Scales of Salaries for the Teaching Staff of Training Colleges, England and Wales, 1945.
Ditto, 1948. Ditto, 1951.

The index numbers for the main Burnham and Pelham scales are combined in Table VII to give a salaries index for all teachers in local authority employment. The index suggests that teachers' salaries have increased by approximately one third since 1945. But from many points of view 1945 is not a satisfactory base year. I have therefore attempted a pre-war comparison for teachers in primary and secondary schools.

TABLE VII

Total Income Index Numbers.

	Weights	*April 1, 1945*	*April 1, 1948*	*April 1, 1951*	*July 1, 1952*
Primary and secondary including special schools	218	100	105	124	132
Establishments for Further Education	8	100	109	130	137
Training Colleges	1	100	114	138	138
All maintained schools and Establishments		100	105	124	132

In 1938 there were separate scales for elementary (now primary and secondary modern) and secondary (now secondary grammar and secondary technical) schools. For elementary schools there were scales for certificated and uncertificated teachers; there were also two provincial scales (Grades II and III) as well as a London scale (Grade IV). For secondary schools there were graduate and non-graduate scales, but there were no extra allowances for graduates in elementary schools. The total income for 1938 was calculated as nearly as possible according to the methods used for later years, but the very considerable changes in scales and school organisation obviously present difficulties and the use of 1938 as a base year must reduce the reliability of the index.

The index numbers for 1938, 1945 and 1952 are shown in Table VIII, together with some details of the salary scales. This analysis suggests that school teachers' salaries have about doubled since 1938, and that some groups have gained relatively more than others. Changes in basic salary and graduate and study allowances have given more to the non-graduate primary

TABLE VIII

School Teachers' Salaries,1938–1945–1952.

	1938	*1945*	*1952*
Salary rates.			
Non-graduate minima			
Elementary Grade II ...	£168		
Elementary Grade III	£180		
Basic scale		£300	£415
Non-graduate maxima			
Elementary Grade II ...	£330		
Elementary Grade III	£366		
Basic scale		£525	£670
Graduate minima			
Grammar school	£249		
Primary and secondary schools		£345	£511
Graduate maxima			
Grammar school	£480		
Primary and Secondary schools		£585	£766
Total income index	100	150	198

The salary rates quoted are those for men teaching outside London. The rates for 1938 were obtained from the Report of the Burnham Committee on Scales of Salaries for Teachers in Public Elementary Schools in England and Wales, 1938 and the Report of the Burnham Committee on Scales of Salaries for Teachers in Secondary Schools, England and Wales, 1938. The graduate minima quoted above are those payable to four year trained graduates.

school teacher than to the graduate grammar school teacher—though the opposite has been true since 1945—and more to young teachers than to experienced teachers who have reached their maximum. To some extent these differences have been modified by the granting of special responsibility allowances, but it is very unlikely that they have been reversed.

FREDA CONWAY.

University College,
Leicester.

APPENDIX

METHOD OF CALCULATION OF SALARY INDEX FOR TEACHERS IN PRIMARY AND SECONDARY SCHOOLS

The total income index numbers were obtained by comparing the total incomes for the whole of a normal working life, calculated according to the Burnham scales which came into force at each date. It was not possible from the data available, to determine the promotion prospects for men and women, graduates and non-graduates separately; I therefore calculated an average total income for all teachers in primary and secondary schools. This average total income was calculated in five parts, those due to basic salary, graduate allowance, London allowance, head teacher allowances and special responsibility allowances. The results are summarised in Table XIA.

Basic Salary

Estimates of basic salary were obtained by combining estimates of the income to be earned as assistant teachers during a normal working life of forty years by qualified men, qualified women and unqualified women. The weights used for combining these incomes were derived from Table II; they were 83, 126 and 6 respectively. In 1951 there were very few unqualified men teachers; I therefore omitted this group from the calculation.

Graduate Allowance

The total degree and study allowance for a working life of forty years was estimated for both men and women graduates. A weighted average of these totals was then found, the weights used being 83 for men and 132 for women. In 1951, 16.4 per cent of school teachers were graduates. This percentage of the average graduate allowance was therefore included in the estimate of total income.

According to the 1945 award, the full allowance was only payable to assistant teachers who had reached their maximum, but were not in receipt of special responsibility allowances. Since 1948 the full allowance has been paid to all graduates. I have shown the whole of this change as an increase in the graduate allowance, though some part of it could have been shown as an increase in special responsibility allowances.

No account has been taken of the extra allowance payable to holders of first class degrees under the 1948 award.

London Allowance

In 1951 approximately fifteen per cent of teachers in primary and secondary schools were receiving the London allowance.

Promotion Prospects

In 1951 there were 27,653 head teachers and the total number of teachers was 214,982. If all teachers taught for forty years, and spent the same time in each grade, each teacher would hold a headship for 5.15 years.

The 1945 and 1948 awards allowed for some variation in the proportion of posts which could be recognised for special responsibility allowances, but in each case the average number was fifteen per cent of the number of qualified assistant teachers. This is equivalent to 5.06 years of a normal working life. The 1951 award gives no information about the number of allowances. I have assumed that the proportion remained unchanged, though this assumption was not necessary as my estimates for these allowances are based on estimates of total expenditure.

Head Teacher Allowances

The 1948 and 1951 awards determined head teacher allowances according to the unit-total of the schools. The unit-total distribution of schools at March 31st, 1951, is given in Table IXA. This table includes special schools, so that the estimates of head teacher allowances made from it may be a little low. The estimates I obtained were £138 and £146 for men and £123 and £131 for women for 1948 and 1951 respectively.

It must be emphasised that these are not estimates of the average allowances actually paid, even in 1951. The difference between the allowances paid to men and women would be greater than that indicated by the above

TABLE IXA

Distribution of Primary and Secondary Schools, including Special Schools, by Unit-totals at March 31, 1951

Unit-total	*Group number*	*Number of schools*	*Unit-total*	*Group number*	*Number of schools*
1— 100	I	8745	1101—1200	XII	129
101— 200	II	5969	1201—1300	XIII	105
201— 300	III	5357	1301—1400	XIV	97
301— 400	IV	3633	1401—1600	XV	143
401— 500	V	1832	1601—1800	XVI	101
501— 600	VI	841	1801—2000	XVII	63
601— 700	VII	421	2001—2200	XVIII	33
701— 800	VIII	224	2201—2400	XIX	16
801— 900	IX	152	2401—2700	XX	7
901—1000	X	115	2701—3000	XXI	8
1001—1100	XI	103	3001 or over	XXII	1

Source : Ministry of Education.
Since April 1, 1951 Group I has been divided into two groups, Group 0 with unit-totals 1—40 and Group I with unit-totals 41—100.

estimates, since the proportion of women in charge of small schools is greater than the corresponding proportion for men.

According to the 1945 Burnham award, the minimum salaries of head teachers were fixed as the salaries they would have received as assistants together with a promotion increment. Maximum salaries varied according to the grade of school, and there were also payments above the scale according to the number of pupils aged fifteen or more. Details of the scales are given in Table XA.

TABLE XA

Head Teachers' Salaries, 1945.

Grade of school	*Number of pupils*	*Number of schools*[1]	*Promotion increment*	*Annual increment*	*Allowance at maximum*
I	up to 100	8871	£30	£15	£45
II	101—200	6371	£60	£15	£90
III	201—350	7793	£90	£15	£135
IV	351—500	3595	£120	£15	£180
V	501 & over	1323	£150	£15	£225

[1] These data relate to schools in 1951 and are derived from Cmd. 8554, Table 11.
The salary rates quoted are those for men.

In a normal working life of forty years, only 5.15 years would be spent as a head teacher : this is too short a time for all head teachers to reach their maximum salaries on the 1945 scale. To overcome this difficulty, I calculated the average allowance from the scale over a period of fifteen years. This seems reasonable; many head teachers spend considerably more than five years in this grade, but the average is reduced by the many teachers who never achieve a headship. My estimates of the average allowances for this year, including payments above the scale, are £114 for men and £98 for women.

Special Responsibility Allowances

The Ministry of Education estimate that in each of the years during which the 1945 award was in operation, the total expenditure on special responsibility allowances was of the order of £1.1 million to £1.3 million and that in the first two of the three years covered by the 1948 report the annual expenditure this head increased to £1.8 million to £2.0 million. The average number of allowances paid during these two periods were 20,000 and 25,000 respectively. These estimates are consistent with average allowances of £60 and £76 for the 1945 and 1948 reports.

Using the information provided by the 1951 report, together with the unit-total distribution of schools, and the number of pupils in the schools in 1951, I estimate that the permitted expenditure on special responsibility allowances is within the range £2.7 million to £4.5 million and may well be of the order of £3.6 million. This expenditure would correspond to an average allowance of £133, if the proportion of posts recognised for allowances was unchanged.

Alternative methods of treating these allowances have little effect on the total income index. If minimum allowances were paid in each year, the index for 1952 would be 130; if minimum allowances were paid in 1945 and the maximum permitted expenditure realised in 1952, the index for 1952 would be 133.

Estimates of Total Income

The index numbers are more reliable, or at least more consistent than the estimates of income on which they are based. Any change in the method of calculation is likely to produce much greater changes in total income, than it will in the total income index. I have considered two alternative assumptions : (i) that the normal working life is thirty years, and (ii) that one quarter of all teachers leave the profession within a few years so that the promotion prospects of those who stay are improved. In using the second alternative I have based my index on the incomes of the seventy-five per cent of teachers who stay in the profession. In both cases the index for 1952 is slightly higher, being 133 instead of 132.

Bias in the Index

The indices calculated here have been obtained by comparing the average incomes for all school teachers. Had it been practicable, I would have preferred to obtain separate index numbers for men and women, graduates and non-graduates in primary, secondary modern, secondary grammar and secondary technical schools and then to have combined these separate indices into a single index for all teachers. Others might wish to obtain separate indices for a greater variety of teachers, say for teachers at all points on the salary scale.

An index obtained from average incomes will only give the same result as an index obtained by averaging the indices for separate groups, if there is

TABLE XIA

Estimates of Total Income. (£)

	1945	*1948*	*1951*	*1952*
Basic salary	16,945	17,583	20,564	21,968
Graduate allowance	271	345	557	557
London allowance	259	259	259	259
Special responsibility allowance	304	385	673	673
Head Teacher allowance	534	663	703	703
Total income for 40 years	18,313	19,235	22,756	24,160
Index	100	105	124	132
Total income for 30 years	13,392	13,994	16,720	17,773
Index	100	104	125	133
Total income for 40 years, if promotion prospects are limited to 75 per cent of teachers	18,576	19,584	23,216	24,620
Index	100	105	125	133

no correlation between the initial salary and the rate of increase. Theoretically the numerical value of the index could vary according to the groups used. In this case however, some changes have favoured the teachers with smaller salaries, and others have favoured those with larger salaries, so that the bias in the index may be slight.

A 'HUMAN NEEDS' DIET: APRIL, 1953

Since our last published survey, for November, 1952, of the cost of a ' human needs ' diet for a family of 5 persons (husband, wife, and 3 children of school age)[1] no major changes in the supply of essential foods had occurred by the middle of April, 1953, when a new survey was undertaken.[2] Eggs, indeed had been derationed and were freely available, but the price of hens' eggs had remained unchanged, though ducks' eggs—which also in November could be bought ' off the ration '—were considerably cheaper than they had been 5 months earlier (their price having fallen from 4½d. and even 5d. to 3d. and 3½d. per egg). The prices of most vegetables showed a seasonal upward movement, and in a number of shops legumes and rice sold somewhat dearer than in November. The cheapest brands of tea, which were widely offered immediately after the de-rationing of tea last year, could rarely be found in April. The price of meat in general had not risen, but there seemed to be more home produced meat in the shops in April, with a consequent slight rise of the cost of some cuts to the housewife. On the other hand, grocers' shops in particular were competing keenly with one another for custom, and as a result of this certain of their goods could easily be bought in April at prices lower than those found to prevail in November. In compiling the cost of the diet scheduled in Table I we have taken account of all these changes. We have also assumed that the relatively high price of dried legumes would have entailed cutting down the consumption of these foods, replacing them partly by animal protein foods and partly by starchy foods.

It will be seen that the cost of this weekly diet amounted to 65s. 3d. ; it thus required 1s. 7¾d. more than the equivalent diet in November. All the foods were found on sale in clean and attractive shops and market stalls. The lowest price at which any particular food was available is listed in Table I only when this price obtained in all the places visited by us, in those shops with which a housewife accustomed to very careful housekeeping could be assumed to be familiar. In fact, many of the items could frequently be bought cheaper than shown by us. Thus, good quality rationed minced meat was available at 2s. a lb.; half a stone of potatoes at 1s. 1d.; old carrots at 3d. and swedes at 2d. a lb.; ducks' eggs at 3d. an egg; herrings at 9d. and kippers at 1s. a lb.; dried peas at 10d. a lb.; cocoa at 10d. per ¼ lb.; and tea at 3s. 4d. a lb. (in two instances at 3s.). These prices, however, were not general, at least not in the type of shops on which our survey is based. Occasional checks were made on prices in shops that, for the purpose of our survey, would be considered ' sub-standard ', and it seems worth mentioning that in some of them the food prices were as high—sometimes, indeed, higher—than in the better appointed shops.

In a free market, prices tend to fluctuate not only in response to changes in supply and demand but also as a result of competition for custom in

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[1] BULLETIN, Vol. 14, Nos. 11 and 12.

[2] In London (Paddington, Lambeth, and Bethnal Green), Abingdon, Banbury, High Wycombe, Newbury, Oxford, Reading, Slough, Thame, and Witney.

TABLE I

Weekly 'Human Needs' Diet for a Family of 5 Persons

	Quantity	*Price per Unit*[1]	*Changes since Nov. 1952* *Quantity*	*Cost*
		s. d.		s. d.
(*a*) Rationed Foods :				
1 Meat	4 lb	2 2[2]	—1 lb	— 1 3
2 Bacon	1 lb 9 oz.	3 2	...	...
3 Margarine	2 lb 3 oz.	1 4	...	...
4 Cooking Fat	10 oz.	1 6	...	...
5 Sugar	3 lb 2 oz.	7	...	...
6 Cheese	7½ oz.	2 2	+ 2½ oz.	+ 4
Cost of Group (*a*)		*20 5*		— 11
(*b*) Fresh Milk :				
7a Ordinary	18 pt.	6½	...	...
7b School	5 pt.	free	...	...
Cost of Group (*b*) ...		*9 9*		...
(*c*) Main Carbohydrate Foods:				
8 Bread	20 lb	4¼[3]	...	...
9 Flour	3 lb	5¼[4]	...	— 1½[5]
10 Potatoes	21 lb	2	...	+ 3
Cost of Group (*c*)		*11 11¼*		+ 1½
(*d*) Fresh Vegetables :				
11a Cabbage	5 lb	6	...	+ 7½
11b Carrots	3 lb 8 oz.	4½	...	+ 1¾
11c Swedes	3 lb 8 oz.	3	...	— 3½
11d Beetroot	1 lb 8 oz.	5	...	...
11e Onions	8 oz.	8	...	+ 1
Cost of Group (*d*)		*5 7¾*		+ 6¾
(*e*) Other Foods :				
12 Eggs	5 eggs	4½	...	...
13 Sausages (beef) ...	1 lb	1 10½	+1 lb	+ 1 10½
14a Herrings	2 lb	11½	+ 8oz.	+ 8
14b Kippers and Bloaters	1 lb	1 3	...	+ 3
15a Peas, dried	1 lb 4 oz.	1 0	...	+ 1¼
15b Beans, dried	...	...	—1 lb	— 1 3
16 Rolled Oats	2 lb 8 oz.	9	...	— 2½
17a Macaroni	1 lb	10½	+ 8 oz.	+ 7
17b Semolina	1 lb 8 oz.	8	+ 8 oz.	...
18 Rice	4 oz.	1 4	— 12 oz.	— 9
19 Jam (plum)	6 oz.	1 0	...	— 0¾
20 Syrup	4 oz.	10[6]	...	...
21 Apples	1 lb	5	...	+ 1
22 Cocoa	4 oz.	11	...	...
23 Tea	8 oz.	3 8	...	+ 4
24 Condiments	...	1 6	...	+ 3[5]
Cost of Group (*e*)		*17 6*		+ 1 10½
Total		**65 3**		**+ 1 7¾**

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[1] The price unit is : milk, one pint ; eggs, one egg ; cocoa, ¼ lb ; condiments, total outlay ; all other foods, one lb.

[2] Average price of inexpensive cuts. [3] 1¾ lb loaf, 7½d. [4] 3 lb bag of plain flour, 1s. 3½d.

[5] 3d. added to cost of condiments, to allow for the purchase of raising agents.

[6] Bought in 2 lb tin.

general. Hence any compilation of a list of fixed prices for specific foods can, for practical purposes, only be a close approximation. If the prices are collected by only one person—as is the case with this survey—the visits to the different towns are of necessity spread over several days; usually the ground-work of our survey takes up about a fortnight. But prices may vary from day to day, so that there can be no absolute certainty that each of the prices recorded in our diet schedule for the several foods was actually 'generally valid' in all the different towns on any one day. Yet any gain in formal correctness by attempting to take all the prices for one given day would be offset by the fact that in order to do this a considerable number of investigators would be needed, which would open the way to errors arising out of individual interpretation of the standard types of shops and the standard quality of the foods considered. Changes in the personnel of the investigating team, which would be inevitable in a survey that stretches over many years, would tend to aggravate such errors and thus could easily entail very distorted pictures of, assumedly, succeeding market conditions. The figures of prices which we give in Table I have been compiled and cross-checked as carefully as possible, in some instances by repeat visits to the same shops, and we are persuaded that although there are bound to be slight variations in the actual cost of individual foods listed by us, the figure of total cost shown holds good for the last weeks in April, 1953, for the type of diet as defined.

Table II compares the relative cost of each of the five food groups in Table I with the corresponding calorific yield of these food groups and, further: with their relative content of protein. Group (*a*)—the rationed foods—required 31 per cent of the total outlay; for this it provided 30 per cent of the total calories derived from the diet, 15 per cent of the total protein, and 37 per cent of the animal protein. The relative low total protein content of this group, as compared with its calorific value, is, of course, due to the fact that much of the calories—about two-thirds of the total obtained from this group—would be supplied by fats and sugar, neither of which contains any protein. In comparing the nutritive values of group (*b*) with the corresponding figure of cost it should be remembered that over a fifth of these values would be obtained from milk supplied free to the children at school. If this milk were omitted, the percentage figures of nutritive values from milk bought (18 pints) would be, approximately, 8, 12½, and 31,

TABLE II

Relative Cost and Nutritive Values of Food Groups in Table I

	Group (a)	*Group (b)*	*Group (c)*	*Group (d)*	*Group (e)*	*Total*
	%	%	%	%	%	%
Cost	31	15	18	9	27	100
Calories	30	10	41	1	18	100
Protein, total ...	15	16	41	2	26	100
Protein, animal ...	*37*	*40*	—	—	*23*	*100*

for calories, total protein, and animal protein respectively, instead of 10, 16, and 40, as shown in Table II. Group (*c*) stands out as the group of the cheap energy foods—bread, flour, and potatoes—while group (*d*) represents the often seemingly 'dear' fresh vegetables—foods that provide negligible quantities of body building and heating materials, but which, nevertheless, are indispensable for proper nutrition, because of their content of essential minerals and vitamins. Group (*e*) is the group of mixed foods. Of all the groups, this one approaches most nearly a balance between relative cost and calorific as well as protein values, in spite of the inclusion in the cost figure of the outlay on tea and condiments, which have no appreciable nutritive value. If these two items are excluded, the figure of cost would be reduced from 27 per cent to 22 per cent.

Table III shows the data of Table II translated into indices, based on the corresponding figures obtained from the survey in November 1952. Since in November group (*a*) included eggs, which at that time were still rationed, while in April eggs are excluded from this group, an apparent fall in the figure of cost for group (*a*) was to be expected, accompanied, of course, by a fall in the corresponding indices of nutritive values. A further reduction in the indices of these values was brought about partly by the reduction in the meat allowance per head from 2s. to 1s. 9d. and partly by our assumption that the average outlay on a lb. of meat would have gone up from 2s. to 2s. 2d., which both together reduced the quantity of meat available for the dietary from 5 lb. to 4 lb. A slight addition in the nutritive content of group (*a*) occurred, however, through the increase in the cheese ration, from 1 oz. per head per week to 1½ oz. The consequent adjustments affected the index of calorific value slightly, lowering it by about 4½ per cent. Against this the index of cost fell by 12 per cent and the index of protein value by as much as 17½ per cent. The upward movement of the corresponding indices for group (*e*) is, of course, the counterpart to this. The final indices, of all the five food groups taken together, bring out the fact that the main nutritional values of the November diet could be obtained equally well from the April diet. The slight reduction in the total protein content of the April diet, as compared with the November diet—due to the reduction in the quantity of dried legumes—is nutritionally insignificant, as, probably, is the slight increase in the content of the diet of animal protein, though this latter fact may be considered by some a culinary advantage.

TABLE III

Indices of Cost and of Nutritive Values of Food Groups in Table I (Nov. 1952=100)

	Group (a)	*Group (b)*	*Group (c)*	*Group (d)*	*Group (e)*	*Total*
Cost	88	100	101	111	127½	102½
Calories	95½	100	100	100	112	100½
Protein, total ...	82½	100	100	100	109	99
Protein, animal ...			—	—	199	103½

Table IV gives the actual amounts of essential nutrients available from the diet per Male Adult Equivalent (M.A.E.). The first column of figures in the table shows the M.A.E. values of the postulated family with regard to each of these nutrients. The Table is, on the whole, self-explanatory; two points, however, must be made. It will be noticed that the intake of vitamin C from the diet has fallen from 48 mgm. in November to 33 mgm. in April. This reduction is due to the reduced content of vitamin C in old potatoes in April. Even so, and in spite of our conservative estimates of the amounts of this vitamin retained in the cooked foods (50 per cent of the average content), the figure of possible intake is 10 per cent above that of actual requirements. An explanation with respect to our figures of calcium intake will be needed by those readers who have followed the articles in this series. They will notice that while in the paper dealing with the survey in November 1952—as well as in the papers on earlier surveys—the calcium intake from the diet per M.A.E. was given as 0.6 gm. it is now shown to be 0.7 gm. For this correction we have to thank Dr. N. C. Wright of the Ministry of Food, who pointed out to us that the calcium content of national bread and flour had, in fact, for some time been twice as much as was assumed in our calculations.[1]

TABLE IV

Nutritional Intake from Diet in Table I

	M.A.E.s[1] of Family of 5 Persons	*Requirements per M.A.E. per Day*	*Intake from 'Human Needs' Diet per M.A.E. per Day*	
			Nov. 1952	*April 1953*
Calories	3.73	3,000	3,100	3,100
Protein, gm.	4.43	70	84[2]	83[3]
Calcium, gm.	7.13	0.8	0.7[4]	0.7
Iron, mgm.	5.40	10	14	13
Vitamin A_1, Intern. Units ...	3.00	3,000	3,700	3,700
Vitamin B_1, mgm.	4.68	0.9	1.7	1.6
Vitamin C_1, mgm.	5.00	30	48	33

[1] Male Adult Equivalents.
[2] 32 gm. of this are animal protein.
[3] 33 gm. of this are animal protein.
[4] Corrected figure.

For reasons which we have explained repeatedly (in particular, the adaptation of our diet schedule from one period to another to changes in market conditions, and the very limited range of foodstuffs included) there can be no *a priori* assumption that changes in the Ministry of Labour index of the retail price of food should be the same as the changes shown in the cost of the 'human needs' diet. Moreover, no up-to-date direct comparison of the two different sets of data is possible, since at the time when the articles in this series go to print the Ministry of Labour index figure is available usually only for a date preceding our inquiry by about a month. Thus against our figures of cost for the second half of November, 1952, and the second half of April, 1953, we can only hold the Ministry of Labour figures for mid-November and mid-March. If, in each case, we make the respective figure for November the base of our calculations, we find that the rise in the cost of the ' human needs ' diet, during the five months, amounted to 2.5 per cent, while the Ministry of Labour index, during the four months, rose by 2.6 per cent.

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[1] Hence, the intake of calcium from national bread and flour in November 1952, would have amounted not to only 124 mgm. but to 232 mgm., as also in April 1953. All the milk and cheese in the November dietary would have given the family 336 mgm. per M.A.E. per day (in April: 348 mgm.). The remaining foods—especially fresh vegetables, dried legumes, rolled oats, and fish—would have provided in November as well as in April about 150 mgm. of calcium per M.A.E. per day.

T. Schulz.

A NOTE *on the* USE *of* STATISTICS ABOUT SAVINGS

Some recent articles on the current level of savings by private persons and by public companies have concluded that these two sources do not provide any net contribution to the financing of investment.[1]

This note does not seek necessarily to criticise this conclusion but simply to show that it is unjustifiable to call on the figures given in the Blue Book on National Income and Expenditure 1946–1951, for support. There are two main reasons why this so so. Firstly there is the difference which often exists between the statistical estimate and the similarly named concept from economic theory. Fundamentally this is because most statistics are obtained for administrative purposes and are not especially designed to correspond to the items in the economists' tool box.

' Profits ' and ' net investment ' are important examples of this kind of difference (there are, of course many others). The statistical estimate of profits makes an allowance for the using up of plant and machinery in the form of a depreciation allowance. This is to correspond to the economic view of income as a flow of goods and services after maintaining capital intact. The allowance which is usually taken in estimates of profit is the income tax allowance for depreciation. However, this allowance is calculated by using a conventional formula and does not necessarily correspond to the actual usage of capital during the year.[2]

This conventional allowance for maintaining capital is also used to change the estimates of home investment from gross to net figures. The same objection, of course, applies here as well. In addition the Inland Revenue authorities allow repairs made to keep plant and machinery in running order to be counted as a current cost. The distinction between ' repairs ' and ' new work' is very difficult to apply in practice and it is highly likely that some new investment will actually be done in the form of ' repairs '. The cost of this new investment will be included in the operating expenses of firms and not in the (statistical) estimate of investment.

It is clear, then, that even if the statistical estimates were consistent from year to year, and were known to be correct within their own categories, it still would not follow that they could be used by economists without qualification and adjustment.

The second reason why the estimates given in the Blue Book cannot be taken as they stand is that they are subject to an important degree of revision each year. This process of revision is of two kinds; (i) changes because an increased *amount* or an improved *kind* of information is now available, e.g. wider information about stocks, and (ii) changes which are the result of more up to date information becoming available, e.g. the delayed information on tax assessments or censuses of production.[3]

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[1] See F. W. Paish, District Bank Review, March 1953 ; S.P. Chambers, Banca Nazionale Del Lavoro Quarterly Review, 1952.

[2] The picture is even more complicated when ' initial allowances ' are introduced.

[3] For this reason it can be taken that the estimates for the last two years in any White Paper are less reliable than those for the earlier years.

The inadequacy of many of the estimates is of course well recognised by the statisticians responsible for the official estimates of national income and expenditure. The notes attached to the successive White Papers bear ample proof of this.

It is this second reason for caution in the use of these official statistics that I wish to develop in this note. The main point here is that the enlistment of the estimates of the Blue Book to support arguments about savings is misleading because it gives the discussion a quite unwarranted appearance of precision. The present estimates of net savings are residuals and are subject to a very wide margin of error. In the absence of any direct measure of savings it would, at present, perhaps be best if discussion about the national level of savings either confined the figures to a footnote or left them out of consideration altogether!

This view is reinforced by a glance at some of the support which the White Papers on National Income gave in earlier years. For example, Professor Paish writing in 1948[1] was of the opinion that 'the very high level of personal savings of 1946 and 1947 were due to the existence of an inflationary pressure which . . . forced people to save more than they really wanted to.' He was able to show from Cmd. 7371 that personal savings in 1946 and 1947 were 860 and 695 respectively. (All figures in this note are in £ million). The Blue Book estimates of personal savings, although not made exactly in the same way as those of Professor Paish are about 460 for 1946 and 160 for 1947.[2]

The picture usually presented in recent discussion is:

	£ million
Undistributed profits of British companies in 1951	652
Less estimate for stock appreciation	800
Company savings for new investment in 1951	—148

and

	£ million
Personal Income in 1951	11,698
Personal Outlay in 1951	11,600
Gross personal savings	98
Less taxes on capital (net)	126
Net personal savings (including an allowance for stock appreciation)	—28

The notes in the Blue Book make it quite clear that the estimate of money needed to offset the rise in the prices of stocks of materials and work in progress is a fairly rough one and that too much weight should not be placed on it. Further, the estimate of personal savings is obtained by taking away total personal outlay from total personal income, and the appropriate note stresses that this estimate is also subject to a wide margin of error.

Consequently any estimates of saving in 1951 which are based on the latest figures available (e.g. the Blue Book) must be regarded as provisional. In fact the margin of error in these figures is so great that it is doubtful whether one can even say if net savings are plus or minus. Estimates of the *size* of net savings in this context are clearly unfounded.

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[1] Westminster Bank Review, reprinted in *The Post War Financial Problem*.

[2] *i.e.*, 259 plus net capital grants to persons of about 200 in 1946 and 61 plus net capital grants to persons of about 100 in 1947.

In order to see how important this point is in practice, we can make similar estimates for business and personal savings in 1949 and 1950. The estimates can be of two kinds, firstly the estimate of savings in 1949 and 1950 based on the White Papers Cmd. 7933 and Cmd. 8203 respectively, and secondly the revised estimates for the same years made in the light of the figures given in the subsequent publications. In other words the estimates for 1949 based on Cmd. 7933 and for 1950 based on Cmd. 8203 are of the same kind as the estimates, currently used, for 1951 based on the Blue Book of 1952. The size of the changes in these estimates for 1949 and 1950 can perhaps be some sort of indicator of what we can expect for 1951 from the next few issues of the official paper on income and expenditure.

TABLE I

Various Estimates of the Net Savings of Public Companies for 1949 and 1950
£ million

Year		*Blue Book 1952 Estimate*	*Cmd. 8203 1951 Estimate*	*Cmd. 7933 1950 Estimate*
1950	Undistributed Profits of British Companies	597	559	
	Less Stock Appreciation	620	205	
	Net Saving	—23	354	
1949	Undistributed Profits	504	485	530
	Less Stock Appreciation	210	7	60
	Net Saving	294	478	470[1]

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[1] The estimate of the provision for stock appreciation by companies has been calculated (by me) on the assumption that about two thirds of total value of the physical change in national stocks can be attributed to companies. This is the proportion used by Professor Paish and Mr. Chambers.

Table I presents the estimates for net savings by companies which could be calculated from the appropriate White Paper and the revisions made necessary by the subsequent papers. The estimate of net savings in 1950 has been changed from a positive figure of 354 to minus 23. Similarly, the estimates for 1949 show great changes.

It is clear that the main cause of the changes in these estimates is the revision of the figures of provision for stock appreciation. The figure for 1950 has been increased by about 400 ; indeed the estimates of the value of the change in national physical stocks and work in progress in 1950 given in the Blue Book is approximately equal in amount but *opposite in sign* to the estimate given in Cmd. 8203. Cmd. 8203 tells us that there was an increase of 115 in 1950 and the Blue Book changes the picture to a fall of 165.

The figures for undistributed profits change much less than those for stock appreciation. This is what we would expect because the estimates of the former one are based on information which is much more reliable than that used for the latter.

So much for business savings: now let us look at personal savings in 1949 and 1950.

TABLE II

Various Estimates of Personal Savings (including a provision for Stock Appreciation) in 1949 and 1950.
£ million

Year	*Item*	*Blue Book 1952 Estimate*	*Cmd. 8203 1951 Estimate*	*Cmd. 7933 1950 Estimate*
	Personal Income	10,893	11,042	
1950	Personal Outlay...	10,716	10,630	
	Personal Savings	177	412	
	Personal Income	10,399	10,507	10,362
1949	Personal Outlay...	10,293	10,126	9,935
	Personal Savings	106	381	427

The figures for personal savings given in Table II show the extent of the revision made necessary by Cmd. 8203 and the Blue Book. The total of savings in 1949 is reduced from 427 to 106 and from 412 to 177 for 1950.

The changes for 1950 are the result both of an increase in the total given for personal outlay and by a reduction in the figure for personal income. How has personal income in 1950 been changed in the Blue Book as compared with Cmd. 8203? The reduction is 149 and this is mainly due to a fall of 196 in ' rent interest and dividends received by persons '. It is difficult to trace this reduction of 196 to its components because only the figures for the totals of all rent, interest and dividends paid out are given. Even if it were possible to trace the component flows, the changes in treatment in the various papers would make the detection of the reason for this difference very difficult. However by looking at the totals for rent, interest and dividends paid out we can perhaps obtain some indication of the way in which this fall is split between these three items.

Rent of land and buildings has fallen from 496 to 442, National Debt Interest from 544 to 501, and interest and dividends paid by public companies from 827 to 741, in all a reduction in these three items of 183.

The difference in the figures for rent seems to be the result of a change in the definition of rent. Cmd. 8203 took a conventional allowance (i.e., income tax) for repairs and maintenance of privately owned houses and the Blue Book now takes ' rents received less an estimated provision for repairs '. (The treatment of local authority houses has also been changed).

From a comparison of notes in the Blue Book and in Cmd. 8203 it is likely that the revised figure for the payment of National Debt interest is the result of excluding interest payments made within the Central Government and to the National Insurance Funds. Consequently, we cannot take this change in National Debt Interest payments as indicating a fall in the interest received by private persons.

It is difficult to see from the notes whether the changes in figure of dividends *paid* by companies given in the Blue Book and in Cmd. 8203 is really a comparison of like with like. The Blue Book distinguishes between dividend payments and addition to dividend reserves, but Cmd. 8203 simply gives a figure for ' payments ' of dividends. A comparison of the series of figures of ' provision for dividends and interest ' given in the Blue Book for the years 1946—1950 with series ' payments of dividends and interest ' in Cmd. 8203 suggests that information about dividends and interest is known, subject to an appreciable margin of error. We can take it then that in a comparison of similar totals the figures for dividends and interest paid in any one year is likely to be revised.

In short it appears that the reduction in personal income shown in the Blue Book is the result of announced changes in the treatment of rent and of considerable amendments of the figures for total dividends and interest paid out.

On the other side of the balance the Blue Book increases the figures for personal outlay in 1950 from 10,630 to 10,716, i.e. by 86. This is accounted for by a fall in the estimate of the provision for taxes, and an increase in personal expenditure. The increase in personal expenditure is 149 and is the result, in the main, of an increase in rent of 48, in other services by 45 and in other goods by 56. Successive White Papers have warned us that the estimate for rent was ' known to be too low '; presumably this increase in the Blue Book has remedied this. Expenditure on other services now includes interior decoration of houses. This was previously classified as gross capital formation and the transfer of this item to the current account increases personal expenditure. No guidance is given in the Blue Book about the revised figure for other goods.

An examination of theWhite Papers published since 1947 shows that in general the figures for personal expenditure, for given years, have been revised upwards with the passing of time.

TABLE III

Various Estimates of Personal Expenditure on Consumer Goods and of Personal Income in 1946

£ million *As given in the White Paper of*	*1947*	*1948*	*1949*	*1950*	*1951*	*1952*
Personal Expenditure	6,584	6,739	6,741	6,790	6,886	7,135
Personal Income	8,522	8,709	8,712	8,766	8,989	8,638

The successive figures for 1946 are given in Table III as an example of this trend of revision to personal expenditure. Up to the White Paper of 1950 the changes in income and expenditure were in the same direction and almost equal in size. Consequently the residual estimates of savings were relatively unchanged. The amendments of the Blue Book were different.

In this case income went down and the expenditure went up. The residual estimate of personal savings in 1946 was 862 in Cmd. 8203 and 259 in the Blue Book.[1]

This continual revision of the official figures has of course its good side. Many of the changes are an indication of the development of the estimates as new information comes along. There are numerous examples in the notes of the White Papers of revisions which are the result of improvements in the scope and reliability of the materials which provide the basis for the estimates.

These remarks have been based on a consideration of the two estimates for 1950. Similar remarks apply to the different estimates for 1949 given in the Blue Book, Cmd. 8203 and Cmd. 7933 and for this reason they are not set out in detail. [2]

In sum the estimate of net business saving depends largely upon the particular estimate of stock appreciation which is invoked. The past estimates of changes in the financial value of stocks (of a given level) do not give grounds for their use with confidence.

Further the figures for gross personal savings fluctuate because of changes in the estimates of both personal income and personal expenditure. Past amendments of personal expenditure have all been upwards, but the changes in personal income have not been in one direction only. Consequently in the absence of a direct measure of personal savings and of a more reliable measure of stock appreciation, discussion about the level of savings which is *based* on the official papers on national income must be speculative and subject to revision from year to year. The use of the official figures without great qualification is misleading because they lend an unjustifiable air of precision to the discussion.

T. K. Gribbin.

Manchester University.

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[1] Or 488 when War Gratuities are added back to Personal income.

[2] For a further discussion of similar changes see J. Mars, *Manchester School*, 1952.